TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

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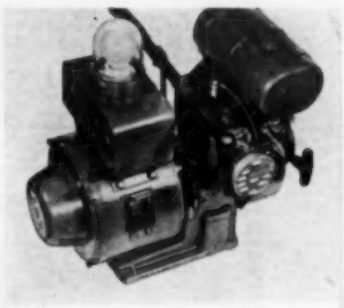
Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

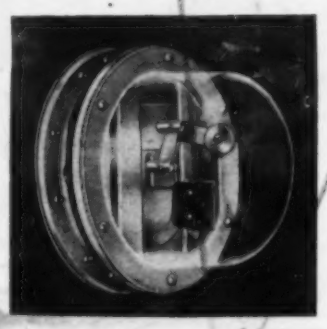
PORTABLE POWER PLANT
made in two 1500-w models



Independent source of electricity remote from power line is provided by a lightweight gasoline driven generator, offered in two models for powering portable tools and equipment. Model 119 is a 1500-w direct current unit supplying 115 v at 13 amp. It has a 3-hp single cylinder engine and four electric outlets. Its 75-lb weight permits carrying in one hand or placement in automobile trunk. Model 118 generator is similar except that it provides alternating current and weighs 135 lb. It has a two-man carrying handle. Made by **Porter-Cable Machine Co.**, 18 Exchange St., Syracuse 8, N. Y.

▲ For more details circle **NED-1 F3** on enclosed inquiry slip ▲

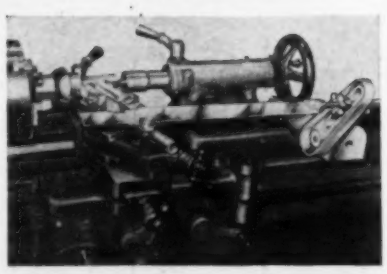
BIN LEVEL INDICATORS
improved and reduced in price



Models A and C Bin-Dicator bin level indicators with general purpose Micro Switch are now priced the same as similar units with mercury switch. Modified frame design, switch installation, greater flexibility in wiring and conduit installations and a new diaphragm back plate are design improvements. Units find application wherever storage of bulk materials is required and where automatic reporting of the level of materials in bins, silos, tanks, hoppers and chutes and automatic control of filling machinery are desired. Made by **Bin-Dicator Co.**, 100-13946 Kercheval Ave., Detroit 15, Mich.

▲ For more details circle **NED-2 F3** on enclosed inquiry slip ▲

PROFILE TRACER
attachment for engine lathes can perform variety of operations



Suitable for short or long production runs, the Pro-Tracer is a simple, compact profile tracing attachment for engine lathes. Model EL-1100 illustrated is for lathes handling work up to 13 in. Installation and removal requires but a few minutes, with no lathe alterations required. Accurately ground ⅛ x 2-in. wide gage stock templates are recommended to guide the tracer slide movement. Template length is limited only by lathe length.

Boring and inside diameter contours can be turned by the same method as conventional outside diameter turning, and a 90-degree step can be cut in the direction of feed. Attachment can also be used for outside diameter turning. Profile tracing is performed by turning the Pro-Tracer at right angles to the spindle. Made by **Lehigh Foundries, Inc.**, Air Control Div., 1503 Lehigh Dr., Easton, Pa.

▲ For more details circle **NED-3 F3** on enclosed inquiry slip ▲

STUD FASTENER
easily driven to attach nameplates

Light metal or plastic name plates, covers and brackets can be attached to heavier structural members by the Driv-Lok stud. Driven by light blows, fasteners are resistant to shock and vibration, yet are easily disassembled without damage to components. Round, flat and countersunk head styles are available in lengths (under head) from ⅛ to ½-in. and shank diameters from 0.067 to 0.250-in. Made by **Driv-Lok Pin Co.**, 717 Chauncey St., Sycamore, Ill.

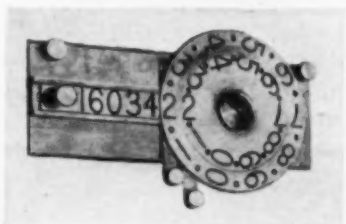
▲ For more details circle **NED-4 F3** on enclosed inquiry slip ▲

LIGHTWEIGHT GOGGLES
have cellulose acetate lenses

Comfortable and light in weight, these industrial goggles are easily carried in the pocket. They are made of 0.020-in. cellulose acetate and are bound with glazed cambric. Clear, red or green colors are available in two sizes. No. 630 regular size fits directly over the eyes; No. 631 jumbo size fits over prescription glasses with frames up to 5½ in. wide. Made by **Sellstrom Mfg. Co.**, 654 N. Aberdeen St., Chicago 22, Ill.

▲ For more details circle **NED-5 F3** on enclosed inquiry slip ▲

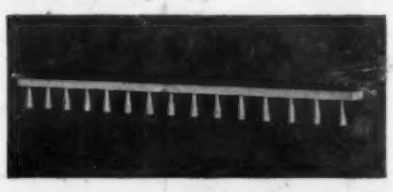
ENGRAVING ATTACHMENT
for serially numbering dials



Consecutive numbers can be engraved on metal and plastic name plates, dials, panels and other parts by this Engravograph engraving machine attachment. Called the No. 411-EM151 serial numbering dial, it is quickly mounted and can be operated by unskilled personnel. Device consists of a double range of numerals which permits automatic consecutive numeral changes of either the last one or two digits. Made by **New Hermes Engraving Machine Corp.**, Dept. 26, 13-19 University Pl., New York 3, N. Y.

▲ For more details circle **NED-6 F3** on enclosed inquiry slip ▲

STATIC ELIMINATOR
speeds feeding of sheets and stock



Readily mounted on presses, compound spreaders, printing machines and similar equipment required to process sheet or roll type paper, textiles, plastics and other materials, Magic Wand electrostatic neutralizer eliminates spark or explosion hazards, simplifies feeding, prevents waste and assures proper handling. Based upon induction neutralization principle, device discharges static through small tufts of wire bristles and conducts it harmlessly to ground. Simple and easy to install, unit is available in sizes for all needs. Full information available from **Herman H. Sticht Co.**, Dept. ED, 27 Park Pl., New York 7, N. Y.

▲ For more details circle **NED-7 F3** on enclosed inquiry slip ▲

SCREWDRIVER & HOLDER
for assembly line combination

An electric production screwdriver and an overhead mounted tool balancer are now available as a packaged unit. The screwdriver, model ES10, is of the reversible pressure-engaged clutch type, with capacity for self-tapping No. 10 machine screw or non-tapping ¼-in. machine screw. The overhead-mounted tool balancer holds a 15-ft steel cable in a streamlined steel housing. Tool retracts when released, providing safe handling of equipment and operator convenience. This unit will take any portable tool up to 10 lb in weight. Made by **Mall Tool Co.**, 7725 S. Chicago Ave., Chicago 19, Ill.

▲ For more details circle **NED-8 F3** on enclosed inquiry slip ▲

HIGH VACUUM PUMPS
capacities range from 2 to 400 cfm

Capable of handling condensible vapors without oil contamination or loss of capacity, the NRC Gas Ballast pump is a high vacuum mechanical unit. German made, it is fitted with American motors, pulleys, flanges and controls, and maintains vapor pressure below condensation point. Pumps are available in single-stage units with capacities of 2 to 400 cfm, as compound units handling 2 to 15 cfm and in combination types with capacities of 30 to 400 cfm. Distributed by **National Research Corp.**, Dept. N-1, 70 Memorial Dr., Cambridge 42, Mass.

▲ For more details circle **NED-9 F3** on enclosed inquiry slip ▲

PHOTO COPIER
makes multiple letter-size copies

Verifax Printer, a typewriter-size office machine, will rapidly produce multiple copies of letter-size papers, each a black-on-white photo-exact duplicate of the original. Three or even more copies, costing less than 5 cents each, can be made from a single matrix sheet. One copy is produced in 50 seconds, three in 60 seconds. They are long-lasting, legible, can be written on, mailed or filed, and can be produced in any office under ordinary illumination. Only service connection is 110 v. Copies can be made from practically any typed, written, drawn or printed original up to 8½ x 11 in. Little instruction is required to operate machine. Made by **Eastman Kodak Co.**, Dept. E, 343 State St., Rochester 4, N. Y.

▲ For more details circle **NED-10 F3** on enclosed inquiry slip ▲

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For more details circle NED-12 F3 on enclosed inquiry slip

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In glancing through this copy of NEW EQUIPMENT DIGEST you probably will find just the right material or equipment to solve one or several of those baffling engineering, production or maintenance problems that constantly arise even in the best regulated plants. Your associates also have additional but different problems. Why not share your "solution source" with them? They, too, will profit from the editorial and advertising columns of NED.

Thousands of plants, both large and small, are routing their copies so that all "top" management and production men are kept informed of what's new. Routing will pay dividends. A routing slip is imprinted at the upper right hand corner of page one of this issue. Why not use it?

A. N. Gregg
EDITOR

PORTABLE FLAW DETECTOR inspects for metal soundness

On-the-spot inspection for metal soundness is possible with portable Dy-Chek flaw location kit. It consists of 1 pt of dye penetrant, 2 pt of dye remover, two developer press-spray containers, 1 pt of developer for use where compressed air is available, three brushes, magnifier, shaper of Handisan hand cleaner and set of instructions. By following simple procedure, cracks, porosity or flaws in metal parts show up as brilliant red lines or dots. Depth of defects is determined also. Made by **Turco Products, Inc.,** Dept. E-7, 6135 S. Central Ave., Los Angeles 1, Calif.

For more details circle NED-13 F3 on enclosed inquiry slip

PUNCH & DIE UNITS adapt to any type of press

Self-aligning Sub Presses for use with kick, arbor, air or punch presses speed set-up and save time in such operations as staking, riveting, piercing and assembly on small piece parts. An operation can be rapidly tooled in the Paragon sub press, which is then put in place on the press bolster and used as required. Perfect alignment is assured since the ram and lower tool holes of the sub press are line bored to precise tolerances. Made by **Price Machine Products,** Dept. NED, 929 W. 80th St., Los Angeles 44, Calif.

For more details circle NED-14 F3 on enclosed inquiry slip

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PUMPS. 5.5-75 g.p.m.
MOTORS. 5.8-15.5 h.p.

are REDUCING COSTS and INCREASING PRODUCTIVITY for the truck farming industry.

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BOLSTER & T-SLOT TYPES TO J.I.C. PRESS ROOM STANDARDS

Forged precision machined heat treated. Tensile strength 150,000 lbs.

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BOLSTER BOLTS
—dia. to 1½" Heads sq. to 3" hex. to 2⅝" T-Slot bolts, ½", ⅝", ¾" dia. lengths to 12". 1" dia. 4" to 22" long.

NUTS—
hardened—threaded to close fit.
WASHERS—hardened — ground both sides.

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SPROCKETS with Split Taper Compression Bushings
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NOW! you have the same simplified BUSHING system for Single and Multiple Groove Sheaves — Rigid and Flexible Couplings — Paper Pulleys and ROLLER CHAIN SPROCKETS.

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"More Safety per Dollar"

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Changes from one tool to another is a matter of seconds. Three point locking feature and tapered shank assures repositioning and eliminates "run out."

Send for catalog describing individual holders and adapters or for specific information on your machine tools.

PORTAGE Double-Quick TOOL CO.
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For more details circle NED-19 F3 on enclosed inquiry slip

Completely Dependable Answers to TEMPERATURE CONTROL

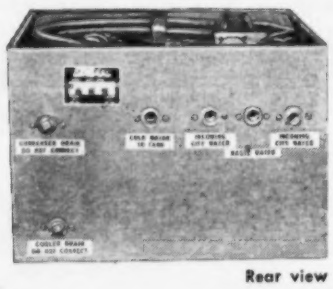
BAR-RAY POSITIVE TEMPERATURE CONTROL VALVE

The unit shown above automatically delivers water at any pre-set temperature, plus or minus 1°.

(a) Can be installed below, above or at side of tank, occupying space of 13⅜" x 2¼" x 4¼".
(b) Capacity 300 gallons per hour at 30 lbs. pressure.
(c) Removable basket-type filters on hot and cold water side with built-in check valves.
(d) Polished chrome-plated brass.

Cat. #B566 $57.00

BAR-RAY WATER COOLER



Rear view

Pictured is one of many Bar-Ray coolers. Small in size, only 12" x 18" x 18", it has giant power and accurate control. Completely water cooled, this unit is designed and engineered to deliver 68° water into the processing tank system, with incoming water at 85°F and ambient temperature at 90°F.

SPECIAL LIQUID COOLING UNITS ENGINEERED AND BUILT TO SPECIFIC REQUIREMENTS

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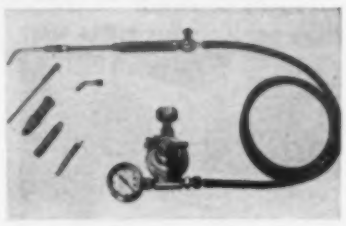
ACETYLENE TORCH
develops temperature to 2800°F



Practically any light heating, brazing or soldering operation can be performed with this No. 123 acetylene torch outfit. Its use requires only acetylene gas from a Presto B tank, and it develops a temperature of 2800° F. Outfit includes torch with built-in valve, four tips, soldering copper, adapter for straight tips, 5 ft of single fabric welding hose, pressure regulator with gage and tank connector. Price is $32.50. Made by **Torit Mfg. Co.,** 298 Walnut St., St. Paul 2, Minn.

For more details circle NED-21 F3 on enclosed inquiry slip

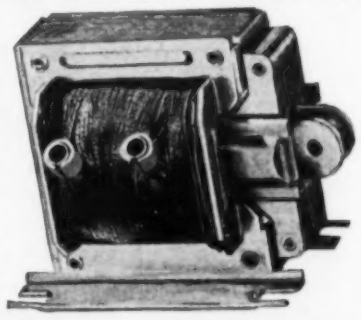
RUBBER-CUSHIONED ABRASIVES
now available in new textures

Useful in removing heavy tool marks from forged aluminum, smoothing weld marks, polishing and burring stainless steel and many other finishing operations, BL series rubber-cushioned abrasives are available in coarse, medium and fine grades. A variety of sizes in wheels, disks, sticks, rods, cylinders, tablets and blocks are made for machine or manual use. Compound can be used with all metals, and will also do many jobs on wood, plastics, glass and laminated materials. Made by **Weldon Roberts Rubber Co.,** Brightboy Industrial Div., Sixth Ave. & N. Thirteenth St., Newark 7, N. J.

For more details circle NED-22 F3 on enclosed inquiry slip

SOLENOID
features replaceable coil

Replaceable coil of this 2000 size C-T solenoid can be changed in the field by removing two spring clamps. Model 230 delivers 6.5 in. lb per stroke, while No. 231 is rated 9.5 in. lb per stroke. Both can be supplied for any voltage rating at 50 or 60 cycles. Field coil is moistureproof and can be oilproof, if desired. Double cotton braid lead wires are standard, with screw or solder type terminals available when specified. Frame and plunger are cadmium plated. Made by **Dormeyer Industries,** Dept. M-1, 3418 N. Milwaukee Ave., Chicago 41, Ill.



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It can lift 25 tons* up to 5 inches is only 10 inches high, weighs 38 lbs.

The "Mighty Mite" (No. 2510-C-2)
**other sizes handle 10 to 50 tons*

This precision made, ball-bearing journal jack is a favorite in industrial plants, construction and engineering companies, building movers, railroads and ship yards. The "Mighty Mite" is easy to carry, simple to operate, quickly raised and lowered, and is absolutely safe and dependable. It can be operated on any plane. A solid steel handle (1⅛" x 36") with pinch bar ends, which can be used as a pry bar, is furnished with each jack.

Call your distributor for complete details and information on prices and delivery or write the oldest and largest manufacturers of lifting jacks for bulletin AD12N. The Duff-Norton Manufacturing Co., P.O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON JACKS
"Giving Industry A Lift Since 1883"

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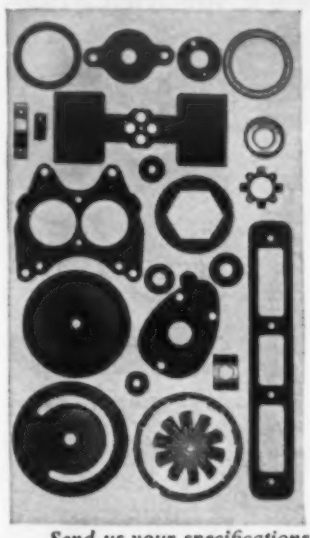
YOU SPECIFY... AUBURN WILL SATISFY!



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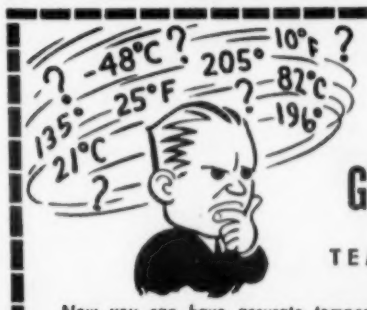

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SURFACE TEMPERATURES

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* Surface, as opposed to ambient external or internal temperatures. Magnet and silicone grease supplied to affix thermometer to any surface.

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SURFACE TEMPERATURE THERMOMETER

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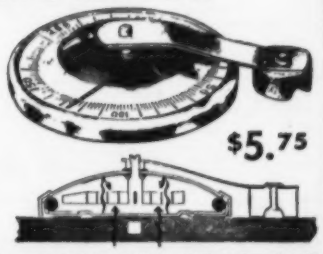
- FREEZERS
- OVENS
- BOILERS
- BEARINGS
- MOTORS
- CEILINGS
- FLOORS
- WALLS



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PACIFIC TRANSDUCER CORP.
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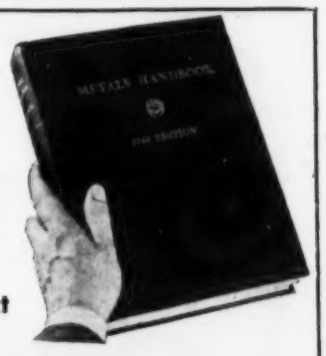
The Metals Handbook



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For more details circle NED-27 F3 on enclosed inquiry slip

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PERMANENT PRODUCT IDENTIFICATION

IN JUST A FEW SECONDS

"AUTOGRAPHS" adhesive-back metal nameplates adhere *permanently* to wood, metal, paint, plastic . . . *any surface* . . . without tacks, rivets or screws . . . drills, hammers or skilled labor. A flick of a solvent-saturated brush, slight finger pressure and "AUTOGRAPHS" are ready to *start selling* and *keep selling* your name and your products *for life!*

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ADVERTISING IMPRESSIONS THAT *STICK!*

WRITE TODAY on your letterhead for samples and literature. Dept. N-5.

METALcraft INC. MASON CITY, IOWA

▲ For more details circle **NED-28 F3** on enclosed inquiry slip ▲

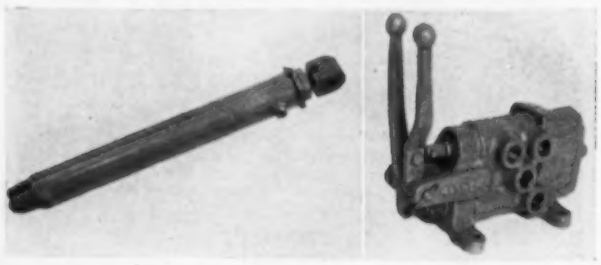
WAGNER OFFERS

DOUBLE ACTING CYLINDER

2½" Bore—1¼" dia Rod 16½" Stroke. Max. working pressure 3000 PSI

DUPLEX VALVE

Capacity 12 GPM
Max. Pressure 1500 PSI



Also Available—
DOUBLE ACTING CYLINDERS:
- 2½" Bore—1¼" dia. Rod
- 16½" Stroke
- 3" Bore—2" dia. Rod
- 28½" Stroke
- Max. working pressure 3000 PSI

SINGLE ACTING CYLINDERS
- 1⅜" and 2" dia. Ram
- 28½" Stroke
- Max. working pressure 3000 PSI

Two balanced spools for operating single acting cylinders and double acting cylinders

Also Available—SINGLE ACTING VALVE
- Capacity 5 GPM
- Max. Pressure 1350 PSI

OUTSTANDING FEATURES . . .

Over 50,000 in service • Designed to change pressure seals in minimum time • Complete stock of spare parts for immediate delivery • Working pressures 3000 PSI • Streamlined for performance, quality, upkeep • Prices—competitive • Delivery—prompt

Write for prices and send your inquiries for quotations

WAGNER IRON WORKS

1905 South First Street Milwaukee 1, Wisconsin

▲ For more details circle **NED-29 F3** on enclosed inquiry slip ▲

SAVE TIME MONEY MATERIAL WORK

Chromalox Catalog 50 Shows You

The Chromalox Catalog is filled with valuable data on the use of electric heat to lower costs and increase production in your plant. It shows over 15,000 types and sizes of electric heaters for heating air and other gases, liquids, viscous fluids and solids; for heating dies, molds, platens, moving parts and other equipment. A section is devoted to the new all-metal radiant heaters for baking, curing, drying and other infrared applications. Put Chromalox Electric Heaters to work in your plant.

WRITE FOR YOUR COPY OF CHROMALOX CATALOG 50 TODAY.

Industrial Division EDWIN L. WIEGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

See other ad on pg. 79

CHROMALOX 18-24

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ For more details circle **NED-30 F3** on enclosed inquiry slip ▲

SAFETY POSTER
stresses eyesight protection

Even if your workers don't read the Readers' Digest in their leisure moments, the message of eyesight protection can't fail to be brought right home to them by this effective safety poster. It shows two scenes; at its left is pictured a relaxed, contented man reading the Readers' Digest; on the right is reproduced in actual Braille a facsimile page from the Readers' Digest Braille edition. The Braille is being "read" by hands printed in position. The headline asks "Which way would YOU rather read?", the subhead states "Wear Your Safety Goggles." The poster is lithographed in four colors, and is 11¾ deep x 15-in. wide. Offered free by **Willson Products, Inc.,** 207 Thorn St., Reading, Pa.

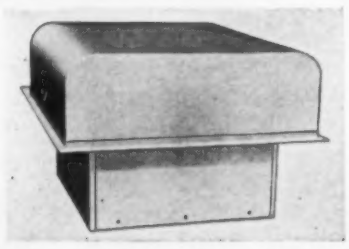
▲ For more details circle **NED-31 F3** on enclosed inquiry slip ▲

NYLON TARPAULINS
vinyl coat gives strength

Weighing less than half as much as cotton duck, vinyl coated nylon tarpaulins are fully waterproof and are resistant to gasoline, oil, chemicals and abrasion. With temperature tests ranging from −57 to 180° F, they have also been found to resist heat, cold and mildew. Tensile strength is not appreciably reduced with age. The tarpaulins are manufactured in 9 and 5-oz weights in sizes for every industrial and commercial use. Made by **Springfield Tent & Awning Co.,** 341 W. Clark St., Springfield, O.

▲ For more details circle **NED-32 F3** on enclosed inquiry slip ▲

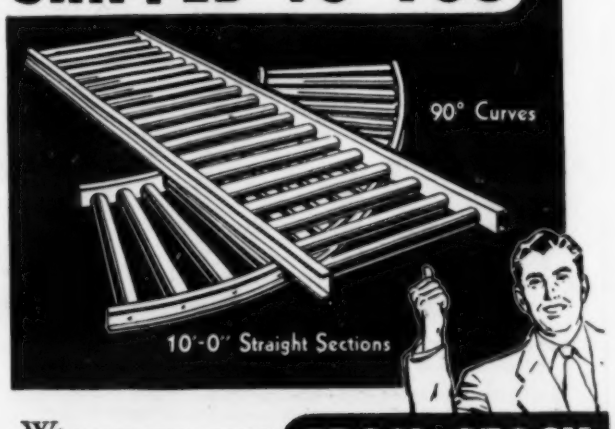
ROOF VENTILATING UNIT
33 models in sizes 24 to 60 in.



Belt driven, propeller type Skymaster roof exhauster features nonoverloading blades for protecting motor from air restrictions or change in duct systems. Thirty - three models are available in sizes 24 through 60 in. with ratings ranging to 17,900 cfm at ⅝-in. static pressure. Standard single-phase motors of 1/6 through ¾-hp are resilient mounted; others up to 5 hp have rigid base. Galvanized steel housing has corrosion-resistant finish. Units are easy to service by tilting hood and removing access door. Remote drive is available for unit exhausting air up to 175° F. Back draft dampers and birdscreens are optional. Made by **Acme Equipment Co.,** Dept. 11A, 213 E. Broadway, Muskogee, Okla.

▲ For more details circle **NED-33 F3** on enclosed inquiry slip ▲

SHIPPED TO YOU



What are your current needs in roller conveyor? **FROM STOCK**

Logan Stock Roller Conveyor is offered in several sizes for average duty conveying. Roller spacing 4" or 6" centers. Roller lengths of 12", 16" and 20". Capacity 75 lbs. per ft. with supports on 10'0" centers and 380 lbs. per foot with supports on 5'0" centers. Both stationary and portable supports available. USE THE COUPON.

Logan CONVEYORS
LOGAN CO., 215 Cabel St.
LOUISVILLE, KY.

LOGAN CO., LOUISVILLE, KY.
☐ Send literature on Stock Conveyors
Mr. _____
Firm _____
Address _____

▲ For more details circle **NED-34 F3** on enclosed inquiry slip ▲

Got a Scaffold Problem?

Give it to us!

UNIVERSAL Ezebilt MAINTENANCE and PAINTING SCAFFOLDING

No Bolts! No Nuts! No Loose Parts!

with exclusive GRAVITY-LOCK

Let UNIVERSAL's Engineers Help You with Your—

WORK PLATFORMS and MOBILE MAINTENANCE TOWERS — easily erected to any size, in any shape and in any length with Ezebilt or Ladscaf Scaffolding.
SCAFFOLDING LAYOUTS for large buildings or rooms using fast-to-erect, adaptable Ezebilt or Ladscaf Scaffolding.
TOUGH JOBS—solved with Endlok pipe & clamp Scaffolding.

NEW Ladscaf LIGHTWEIGHT SCAFFOLDING with Fast-Acting 'Lock-On' Clamps—Now Available
Write for Bulletin N-6

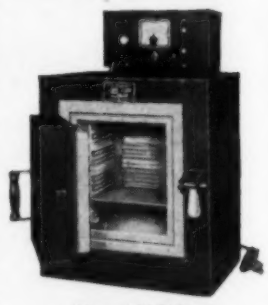
UNIVERSAL MANUFACTURING CORP. ZELIENOPLE, PA.
"World's Largest Producer of Steel-Panel Scaffolding"
Distributors Offer Fast Help and Service - Consult Your Phone Directory

▲ For more details circle **NED-35 F3** on enclosed inquiry slip ▲

Hotpack ELECTRIC HEAT TREATING FURNACE

For hardening, drawing, tempering, and annealing or normalizing of dies, punches, gages, fixtures or other parts are performed readily with these redesigned Hotpack Electric Box Furnaces.

This new Hotpack Electric Furnace is fast heating—built for continuous use from 300° F. to 2000° F. It is the only furnace equipped with Automatic Controlling-Indicating Pyrometer and also with Limitstat control in this price field.



No. 7074

SPECIFICATIONS

Model	Interior Size W. D. H.	Current Characteristics	Shipping Weight	Price F.O.B. Philo.
7076	8"x 8"x 5½"	110 V-AC-15 Amp.	180 lbs.	$195.00
7074	8"x 8"x11"	115 V-AC-15 Amp.	200 lbs.	$225.00
7075	12"x12"x11"	220 V-AC-23 Amp.	350 lbs.	$350.00
7077	15"x15"x16½"	200 V-AC-30 Amp.	550 lbs.	$550.00
7079	12"x12"x 5½"	110 V-AC-15 Amp.	250 lbs.	$235.00

WRITE FOR COMPLETE DETAILS

THE ELECTRIC Hotpack COMPANY, Inc.
5063 COTTMAN STREET, PHILADELPHIA 35, PA.

▲ For more details circle **NED-36 F3** on enclosed inquiry slip ▲

Plug that hole...

with BUCHANAN SNAP-ACTION PLUGS

These versatile stamped steel plugs are the answer to hundreds of hole plugging problems. For temporary or permanent use, the ease of installation and the strength of construction make Buchanan "Snap-Action" plugs ideal for so many uses.

Plugs are available in a broad range of sizes. Send us your requirements.

SEND FOR CATALOG O-1

BUCHANAN
ELECTRICAL PRODUCTS CORPORATION
Hillside, N. J.

▲ For more details circle **NED-37 F3** on enclosed inquiry slip ▲

With R-B equipment you save "time on the board" because you are working with a standardized tooling concept. You can select either a catalog item or design specials to meet your sheet metal piercing specifications. The same basic design principles inherent in R-B standard punches, die buttons and retainers can be applied to all your special requirements.

Tool standardization is the basis for efficient and economical production. With R-B you get the accepted standard of the sheet metal industry—in standard design features that save in engineering, die construction and operation.

For further information on how you can save time in die designing write to—

ALLIED PRODUCTS CORPORATION
RICHARD BROTHERS DIVISION
DEPT. 64 • 12629 BURT ROAD • DETROIT 23, MICHIGAN

▲ For more details circle NED-38 F3 on enclosed inquiry slip ▲

NOONE

woven industrial fabrics

FOR ALL INDUSTRY

absorption • belting
filtration • pressing • refining
conveying • cushioning • insulation
lamination • polishing • roll covering
and many other specialized uses

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EXPERIENCE
Our modern, efficient facilities, and 122 years of imaginative progress, have made Noone a leading manufacturer of woven fabrics designed for every conceivable industrial operation.

EXPERIMENTATION
Recent merging with Kenwood Mills makes available to Noone great new capacity for research. Experimental development of new applications for industrial fabrics is one of our major activities.

CONSULTATION
Write us your problem: it will command the attention of our experimental division until its solution is found. Your difficulty may well be solved with the use of a woven fabric engineered to your needs and specifications.

NOONE INDUSTRIAL FABRICS DIVISION
—KENWOOD MILLS
Dept. 611 • Peterborough, New Hampshire
The oldest manufacturer of woven industrial fabrics in America

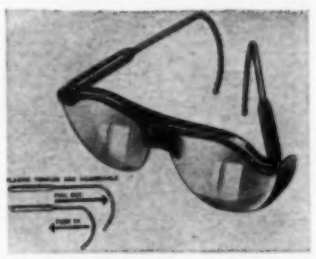
▲ For more details circle NED-39 F3 on enclosed inquiry slip ▲

LOCATING MICROSCOPE
for machine tool applications

Providing 30X magnification, great enough to see 0.0001-in., the model 11 machine tool locating microscope aids the operator of a jig borer, vertical milling machine or other machine tool in checking contours, slots and surface conditions. It is mounted directly in the machine spindle or on an offset bracket. All table movements made by the operator appear to be in the true direction when observed through the eyepiece. Field of vision includes ¼-in. of the workpiece. Made by **Perkin-Elmer Corp.**, Danbury Rd., Norwalk, Conn.

▲ For more details circle NED-40 F3 on enclosed inquiry slip ▲

ALL-PLASTIC SAFETY SPECTACLE
ear hooks are adjustable to length



Retrax temples of model 415 Tuc-Away all-plastic safety spectacle telescope in or out to any desired length. Extremely lightweight, spectacles feature "ball-chain" hook design and universal type nose-piece. Available lenses include regular side shield for average eye hazards, full 1-in. side shields and semicup lens for side and bottom protection. All are made of shatterproof methyl methacrylate in clear or light, medium and dark green. Made by **Watchemoket Optical Co.**, Dept. N31, 232 W. Exchange St., Providence 3, R. I.

▲ For more details circle NED-41 F3 on enclosed inquiry slip ▲

SHOP APRON
easily cleaned with damp cloth

Shop apron made of Durawear plastic fabric is resistant to animal fats and greases and is easily cleaned with a damp cloth. Material is soft and has good tensile strength. The apron requires no laundering and will resist water, stain, acids and mildew. It also withstands fire and chemicals. Apron is offered in sanitary white in standard and extra heavy weights, with or without bib and in several sizes, and in jet black. Made by **Utility Apron Co.**, Dept. 146, 53 W. Jackson Blvd., Chicago 4, Ill.

▲ For more details circle NED-42 F3 on enclosed inquiry slip ▲

Reduce Wear
with Stock Bars of
AMPCO* METAL
Grade 18, Centrifugally Cast

AMPCO METAL Grade 18 stock bars are a real convenience — you carry the sizes most generally used. Prompt delivery from our Milwaukee stock on all other sizes.

Centrifugally cast Grade 18 stock bars are carried in all sizes from 1⅛" to 3⅞" I.D., 1¾" to 6" O.D., 12½" long, rough bored and faced one end. Solid extruded bars, cut to desired lengths, are also available.

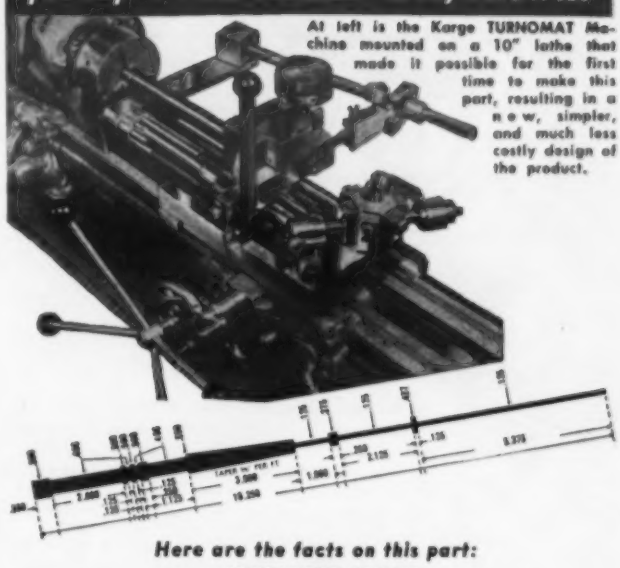
Write today for your free wall chart and a 4-page data sheet listing physical properties and recommended usages.

*Reg. U. S. Pat. Off.

AMPCO D-15
AMPCO METAL, INC.
DEPT. NE-6 • MILWAUKEE 46, WISCONSIN
West Coast Plant: BURBANK, CALIFORNIA

▲ For more details circle NED-43 F3 on enclosed inquiry slip ▲

you say "It's IMPOSSIBLE"...well, here it is!



At left is the Karge TURNOMAT Machine mounted on a 10" lathe that made it possible for the first time to make this part, resulting in a new, simpler, and much less costly design of the product.

Here are the facts on this part:

INSTRUMENT SPINDLE

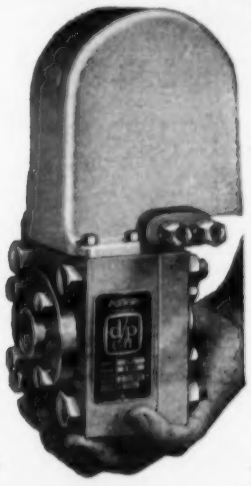
Material — Stainless steel	Number of pieces — 2500
Finish — 16 micro inches	Time — 11 minutes each
Diameter tolerances ±.001	Set-up time — 15 minutes, total
Number of Diameters — 14	Tooling cost — $11.25

Make us prove we can solve your problem, at real savings for you. Mail us your sample or blueprints; our engineers are eager to advise, recommend and quote you on the correct TURNOMAT equipment and tooling to give you increased production at lower cost. It costs you nothing to get the TURNOMAT facts—may save you thousands of dollars as it has other leading industries. Write today, Dept. NE.
U. S. Patent No. 2,464,813. Other U. S. and foreign patents Pending.

TURNOMAT COMPANY, INC. Brockport, New York

▲ For more details circle NED-44 F3 on enclosed inquiry slip ▲

SIMPLER FLOW MEASUREMENT in the palm of your hand



NEW! MERCURY-LESS!
FOXBORO
DIFFERENTIAL PRESSURE CELL

Simplify troublesome flow problems . . . especially where corrosion is a factor or the use of mercury is objectionable. This unique flow measuring device — the Foxboro d/p Cell — reduces installation and operating costs, combines measurement and transmission in one simple, compact unit.

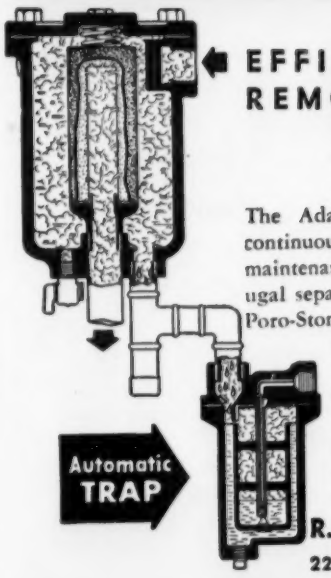
OUTSTANDING FEATURES
- *Uses no mercury*
- *Zero Displacement*
- *Easily calibrated*
- *Steel or Stainless Steel Construction*
- *Weighs only 20 pounds*
- *Ranges: 25" to 800" H_2O*

WRITE FOR BULLETIN 420. The Foxboro Company, 666 Neponset Avenue, Foxboro, Mass., U.S.A.

FOXBORO Reg. U. S. Pat. Off. ACCURATE FLOW MEASUREMENT

▲ For more details circle NED-45 F3 on enclosed inquiry slip ▲

Poro-Stone Filtration
FOR COMPRESSED AIR



EFFICIENTLY REMOVES:
OIL, WATER PIPE SCALE

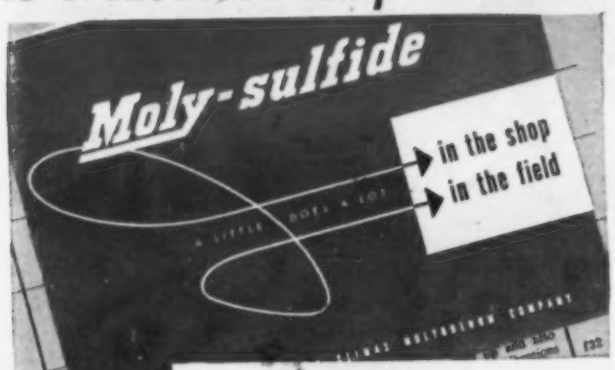
The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
227 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

▲ For more details circle NED-46 F3 on enclosed inquiry slip ▲

154 ideas on ways to use...



154 varied applications of molybdenum sulfide in the shop and in the field are described in a new booklet now available. This solid-film lubricant has demonstrated unique anti-friction properties under conditions of extreme pressure, high velocity, elevated temperature, or chemical attack.

The 40-page booklet contains the records of solved lubrication problems—some might solve your own.

Moly-sulfide
A LITTLE DOES A LOT

The lubricant for extreme conditions

MS-6A

Climax Molybdenum Company
500 Fifth Avenue, New York City 36, N.Y.

For more details circle NED-47 F3 on enclosed inquiry slip

Leonard Tubemaster

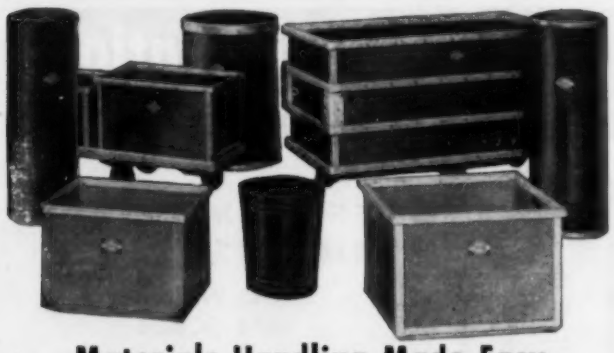
TUBE
- *Flaring*
- *Beading*
- *Deburring*
- *Bending* **MACHINES**

Consult Our Tube Specialists Division for Production Tube Processing

LEONARD PRECISION PRODUCTS CO.

P. O. BOX 176 GARDEN GROVE, CALIF.

For more details circle NED-48 F3 on enclosed inquiry slip



Materials Handling Made Easy

Simplify the storage and handling of your materials with Spaulding Fibre Receptacles. They're tough, light weight, shock-proof, resistant to impact and abrasion, will not splinter or corrode.

The Spaulding line includes boxes, baskets, barrels, trays, and trucks of all types. Most can be made to your order in the size and weight best suited to your needs. Send coupon for catalog today.

Spaulding

FIBRE COMPANY, INC., Tonawanda, N. Y.

Please send me by return mail your catalog on Spaulding's complete line of Fibre receptacles.

Name _____

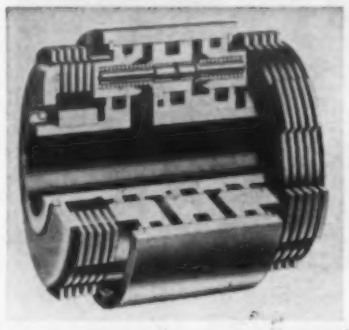
Firm _____

Address _____

City _____ Zone _____ State _____

For more details circle NED-49 F3 on enclosed inquiry slip

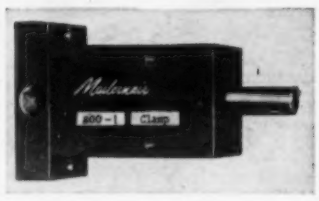
MULTIPLE PLATE CLUTCH
oil actuated, needs no adjustment



No adjustment is required to compensate for friction plate wear on models MOS single and MOD duplex oil-actuated multiple plate clutches since floating or pressure plate is the ram of the cylinder. As plate stack wears, ram travel increases automatically. This feature provides for constant torque capacity for any given oil pressure, making it possible to use a smaller clutch. Oil-actuated design allows torque capacity to be directly proportional to applied oil pressure, since this pressure creates the clamping force. Where remote control is desired, only a selector valve and a seal are required. Made by **Twin Disc Clutch Co.**, Dept. N, Racine, Wis.

For more details circle NED-50 F3 on enclosed inquiry slip

AIR CYLINDER
is single-acting air-return type



In 1 and 2-in. strokes, series 800 clamp type single-acting air-return pneumatic cylinder is available for horizontal and vertical mounting. Body is bar stock aluminum, piston rod is stainless steel, piston is brass, and standard O-ring seal is used. Bronze bushing acts as guide for piston rod. Made by **Modernair Corp.**, Dept. NED, 400 Preda St., San Leandro, Calif.

For more details circle NED-51 F3 on enclosed inquiry slip

VOLT/AMP TESTER
portable instrument does two jobs

Two instruments in one, the Amprobe Junior is both a snap-around ammeter which measures current instantly without shutdowns or ammeter connections and voltage meter giving accurate readings on a full-size 1.8-in. calibrated scale. Accuracy for both amperage and voltage is plus or minus 3 per cent of full scale. Four standard models are available, with ranges up to 0-100 amp and 0-125/250-v ac. Custom ranges to fit special requirements can be ordered. The instrument is built to withstand rough usage, and has a safety factor of 3000 v. Made by **Pyramid Instrument Corp.**, Dept. NED, Lynbrook, N. Y.

For more details circle NED-52 F3 on enclosed inquiry slip

ALL STEEL BUT— *LOOK HOW LIGHT!*

THIS is one of the new A-F *Live Rail* units. It is available in 5 ft. and 10 ft. *lengths* and 45° and 90° *curves* — with 4 or 8 wheels per foot . . . or in *completely assembled sections* of 2 to 4 rails. Most versatile of all pieces of equipment, *Live Rails* can also be combined quickly — or re-combined, by anyone, to make 18 different wheel patterns 7½" wide to 16½" wide — portable or permanent. Write for FREE folder — today!

LIVE RAIL
ALVEY-FERGUSON CINCINNATI, OHIO

A NEW CONCEPT IN MOVEMENT

THE ALVEY-FERGUSON COMPANY
A-F
First in Product Handling Since 1901
32 Disney St. Cincinnati 9, Ohio

For more details circle NED-53 F3 on enclosed inquiry slip

SELLERS

HYDRAULIC JET CLEANER

LEAST EXPENSIVE TO BUY & OPERATE — **MOST EFFECTIVE FOR HEAVY DUTY CLEAN-UP**

Operated by ordinary plant steam and cold water lines, this unit propels a solid jet of extremely high pressured hot water and detergent. The discharge force completely cleans areas up to 30 ft. from operation point, reaching inaccessible machinery parts. Eliminates down time and scaffolding. Removes all soil, sludge, and encrusted deposits.

CUTS CLEANING COSTS UP TO 94%

FOR ANY PLANT WITH 5 PSI STEAM & UPWARD

Write for literature and the name of our local distributor

SELLERS *Injector* CORPORATION SINCE 1848
1600 Hamilton Street Philadelphia 30, Pa.

For more details circle NED-54 F3 on enclosed inquiry slip

more advantages than any other heating method for
FORGING •
EXTRUSION •
ANNEALING

Here are the outstanding advantages . . .

Taper heat control; one-fifth the floor space; no warm-up time; exact temperature (measured) of every billet; completely automatic. Size range begins at 4" steel bars—1⅛" in aluminum and 3" with brass. Maximum almost unlimited—now up to billets of 32" diameter and 6,000 pounds.

If you want prompt and authentic information on a Magnethermic Heater, let us know what size billet; for what use; and, desired production rate. Your inquiry will receive prompt attention.

THIS BOOKLET MAY END A LOT OF YOUR HEATING PROBLEMS

The bulletin has sizes, styles, descriptions and other useful information. A copy will be mailed promptly upon request.

60-CYCLE
MAGNETHERMIC corporation
3990 SIMON ROAD YOUNGSTOWN 7, OHIO
INDUCTION HEATING

For more details circle NED-55 F3 on enclosed inquiry slip

FORMULA 602 VS. CARBON TETRACHLORIDE

(report by independent test laboratory)

FORMULA 602
Ten healthy adult albino rats inhaled 125 parts FORMULA 602 per million parts air in an inhalation box for 30 minutes. This was repeated daily for 14 days. At the end of this time ABSOLUTELY NO ILL EFFECTS OR DEATHS OCCURRED!

CARBON TETRACHLORIDE
After 30 minutes exposure to 125 parts carbon tet per million parts air in an inhalation box, seven out of ten rats died. The following day, the remaining 3 rats died after another 30 minutes exposure. CARBON TET KILLED ALL THE RATS!

FORMULA 602 CLEANS MOTORS AND ALL ELECTRICAL EQUIPMENT

FORMULA 602 cleans without leaving a residue, corroding metals or damaging electric insulation. Use it wherever carbon tet is used for cleaning!

SEND FOR FULL INFORMATION TODAY

the PENETONE co.

BOX ND-653 TENAFLY, NEW JERSEY

For more details circle **NED-56 F3** on enclosed inquiry slip

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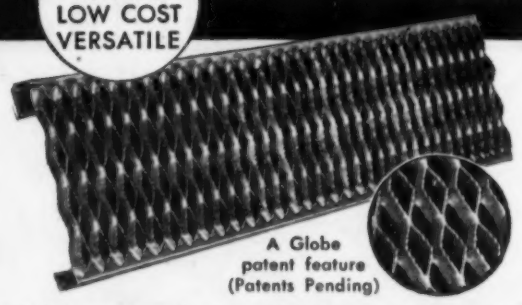
Safety GRIP-STRUT

gives Maximum Strength with Minimum Weight

NON-SKID RUGGED LOW COST VERSATILE



A Globe patent feature (Patents Pending)

Not welded, not riveted, not expanded, all one piece of material, gives a non-skid surface in *all* directions, a diamond shaped pattern with open space area in excess of 75% of surface, easily cleaned, sanitary. Simple to install, ideal for on-the-job fabricating, replaces existing grating with no supporting structural changes necessary. Strong yet light in weight. Ideal for stair treads, work platforms, catwalks, flooring, running board steps, in fact for any purpose where safe flooring is a factor. Available in steel or aluminum. Write for new catalog, showing new low prices, methods of application, typical installations and list of nationally known users.

Distributors in all principal cities.

GRIP-STRUT division
THE GLOBE COMPANY
Manufacturers since 1914
4002 S. Princeton Ave. • Chicago 9, Ill.

For more details circle **NED-57 F3** on enclosed inquiry slip

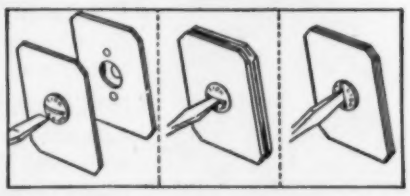
---

For parts that must be TAKEN OFF . . .

PUT BACK...BUTTONED TIGHT

LION FASTENERS

LOCKS TIGHT WITH A QUARTER TURN
Always at correct tension



Lion Fasteners are *right* for buttoning parts that must be removed repeatedly for inspection, maintenance, or other reasons.

Vibration and shock can't loosen a Lion Fastener. Even an inexperienced service man can't replace it wrong. A quarter turn opens it. Another quarter turn locks it. The tension is *designed into it.*

Lion Fastener Spring Assembly is quickly spot welded or riveted in place. The stud cannot be lost. It is grommeted tight to the sheet. They will button sheets .040 plus or .020 minus over or under standard rating. The misalignment is as much as .156. The one-piece forged stud is tested to 1425 lbs. Write today for demonstration kit and application data.
TYPICAL APPLICATIONS: INSPECTION PLATES • COWLING • ELECTRICAL PANELS • CABINETS • DUCTWORK

FREE DEMONSTRATION KIT

contains sample Lion Fasteners to help you visualize their adaptability to your product. Write on your company letterhead. No obligation.

LION FASTENERS, INC.
600 Main St., Honeoye Falls, N. Y.

For more details circle **NED-58 F3** on enclosed inquiry slip

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REFRIGERATION DRIER uses moisture absorbent material

Employing An-Drite moisture absorbent material, T-Flo refrigeration drier minimizes breakdowns and contributes to machine's efficiency. Easy to install directly in the refrigerant line, device is supplied with standard flare or solder connections. Drier is offered in 8, 12, 20 and 30-cu in. sizes with seven sizes of T-connections from ¼ to ⅝-in., making possible 28 different combinations. Desiccant is chemically treated gelatinous aluminum oxide hydrate which is usable at temperatures to 140°F, is noncorrosive and removes acid. Device is also applicable to lines and equipment in which excess moisture is harmful. Developed by **Ansul Chemical Co.,** 1 Stanton St., Marinette, Wis.

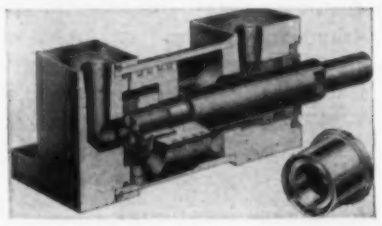
For more details circle **NED-59 F3** on enclosed inquiry slip

ELECTRONIC TERMINALS available in 12 models

Line of hermetically sealed electronic terminals in three series comprises 12 models. Each series can be had with straight wire or double turret head pin treatment. The pins can extend from either the flange or barrel side of an eyelet, so that junction points can be above or below panel. No. 4 series has 9/64-in. mounting hole and 11/64-in. flange diameter, No. 5 a 3/16-in. hole and ¼-in. flange diameter, and the No. 7 series 15/64-in. mounting hole and 5/16-in. flange diameter. Units are all designed to be attached by soft-soldering, and are of fully insulated fused and sealed glass-to-metal construction. Made by **Fusite Corp.,** Dept. NED, 6000 Fernview Ave., Cincinnati 13, O.

For more details circle **NED-60 F3** on enclosed inquiry slip

HYDRAULIC CYLINDERS with quick-change packing cartridge



Packing cartridge unit of this hydraulic cylinder is easily and quickly changed by removing the snap ring, usually without dismounting the cylinder. Cartridge is machined from leaded bronze alloy and provides double bearing surfaces for the piston rod. Line of 2000-psi cylinders includes 11 models in 11 bore sizes, built to JIC standards. Photo shows cross-section of cylinder and inset shows the packing cartridge. Made by **S-P Mfg. Corp.,** Dept. N, 12415 Euclid Ave., Cleveland 6, O.

For more details circle **NED-61 F3** on enclosed inquiry slip

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Mid-States Simplified Welding

Cuts Production Costs!

- AUTOMATIC ARC STARTING
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- NO MOVING PARTS TO WEAR OUT
- 100% PENETRATION—SMOOTH BEADS

You Can Do a Better, Faster, Easier Welding Job with these HEAVY DUTY Mid-States ARC WELDERS

Operators do not need special skill to do a perfect welding job with Mid-States Heavy Duty Welders. You can weld heavy and light gauges, even 22 gauge, without danger of burning through. In addition, you can do brazing, soldering, hard-surfacing and heating.
The plug-in type welder transformers are wound throughout with double glass covered magnet wire and stacked with high grade electrical sheet. The Mid-States Heavy Duty Welder is a complete outfit for every welding need.
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Mid-States WELDER MFG. CO.
6025 SOUTH ASHLAND AVENUE • CHICAGO 36, ILLINOIS

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for FASTER, EASIER and SAFER MATERIALS HANDLING

FASTER—Towveyor chain automatically picks up load when pin attached to truck is dropped into slot. Material is delivered to destination without wasted traveling time.

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SAFER—Clear floors with no obstacles for employees to walk or truck over, and there are no overhead chains or supports to present safety hazards.

Cut your handling costs with a "Towveyor" system that will speed up distribution, permit faster filling of orders and easier loading or unloading of freight cars and trucks.

**TOWVEYOR is a registered trademark identifying floor truck conveyors manufactured and installed by the Jervis B. Webb Company.*

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DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
CONVEYOR ENGINEERS AND MANUFACTURERS

For more details circle **NED-63 F3** on enclosed inquiry slip

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Direct-Drive INDUSTRIAL FAN

5 Sizes 24" to 48"

5400 to 36000 CFM

You get extra cooling and ventilating power per dollar with this new fan! Its rigid construction puts it in a heavy-duty propeller-fan class, yet prices start as low as $160.00 (24" size)! New "gull-wing" blades, combined with an improved air inlet, set new highs in efficiency. Installation is easy, maintenance costs low. Whatever your ventilation problem—industrial, commercial or military—it will pay you to circle the enclosed inquiry slip now!

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- Streamlined air inlet for greater efficiency

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Write: **PHOTOSWITCH INC.** Dept. NA 6, 77 Broadway Cambridge 42, Mass.

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WORK CLAMPS give wide-range positive grip

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SUBZERO CABINETS for industrial parts refrigeration

Available in 3, 6 and 9-cu ft sizes, Hudson Bay horizontal utility cabinets are equipped with large refrigeration compressors to provide operation to minus 70 or 95° F. Freon refrigerants are used, giving adjustable control within 2°F of a set point. Interior chamber dimensions of all models are 17-in. wide by 22-in. high, and interior lengths are 15, 30 and 44 in. for the three different capacities. Maintenance is simplified by the large mechanism compartment and "snap-in" access panels enclosing three sides of the refrigeration apparatus. Standard units are equipped with leakproof stainless steel interior and a counterbalanced lid. Made by **Refrigeration Systems, Inc.**, Hudson Bay Div., 646 W. Washington Ave., Chicago 6, Ill.

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Aluminum Handbook

Kaiser Aluminum & Chemical Sales, Inc.—152-page pocket-size handbook on aluminum sheet and plate covers applications, fabrication and finishing methods. It contains 55 pages of comprehensive tables on properties, compositions, availabilities and other valuable data. For ease of reference on mechanical and specific qualities, separate pages are allotted to each standard alloy.

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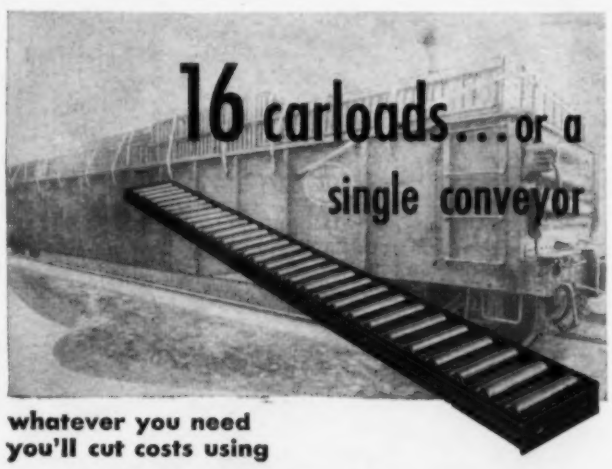

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THE E. W. BUSCHMAN CO.

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3 Points of *Superiority*

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Tellevel—Bin Level Controls · Car Loaders · SealMaster Ball Bearings · Car Pullers · Winches · Variable Speed Reducers · Saco Speed Reducers

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F-3

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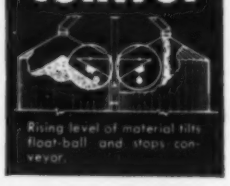

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TELLEVEL Bin Level Controls · SealMaster Ball Bearings · Car Loaders · Car Pullers · Winches · Saco Speed Reducers

12 RIDGEWAY AVENUE, AURORA, ILL.

For more details circle NED-75 F3 on enclosed inquiry slip

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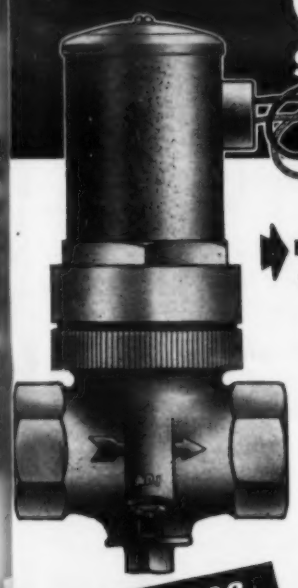

¼ TO 3" SIZES
WIDE PRESSURE RANGE

BUILT-IN: Manual Opening, and Adjustable Cushioning Adjustments

Guaranteed Water and Oil Proof Coils

General Service and Special Service Valves Available

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FLOW CONTROL SERIES
Plus all above features. ¼ to 2" sizes.

VELVETROL DL and D Valves incorporate new O-Ring bonnet seal.

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GRIEVE-HENDRY PORTABLE ELECTRIC OVENS...

Standard Models For Every Special Need!

Model CR-1
10 cu. ft. capacity—30" wide x 25" deep x 24" high. Removable shelves and drip pan. . . . . $79.50 f.o.b. Chicago

Portable. Costs less than 5c per hour to operate. Adjustable temperature control to 225° F. Fan driven forced air circulation. Uniform temperature throughout. Plugs into any 110V wall outlet—no special wiring required.

Quick Quotations — Prompt Delivery — Reasonable Prices — on Ovens made to your specifications.

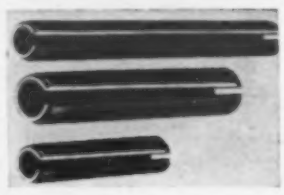
Can be used in a group or bank. Use them on the production line —save handling—hauling.

Other standard models with temperature ranges to 1000°F. available. Write for literature.

GRIEVE-HENDRY CO., INC.
1811 W. LAKE STREET Dept. NED. CHICAGO 12, ILL.

For more details circle NED-77 F3 on enclosed inquiry slip

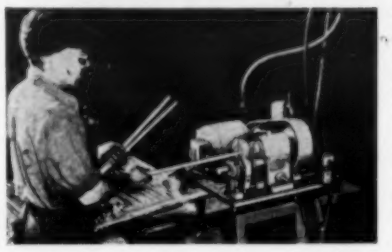
SPRING PIN FASTENER
self-locking, easy to insert



Serving same purpose as tapered, grooved and dowel pins in all kinds of assemblies, the Sel-Lok spring pin is vibrationproof, absorbs shock, is easy to insert and remove and can be used in unreamed holes. It is heat-treated and as strong as a solid cold-rolled pin of the same dimensions, and is available in several materials and platings. Standard and light-duty wall thicknesses in diameters from 1/16 to ½-in. and a wide variety of lengths are stocked, and heavy duty types can be ordered as specials. Made by **Standard Pressed Steel Co.**, P. O. Box 581, Jenkintown, Pa.

For more details circle NED-78 F3 on enclosed inquiry slip

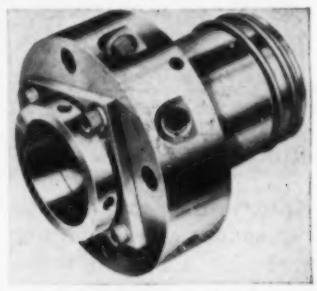
END FINISHING MACHINE
for rod pointing operations



Depression of an electrical foot control by the operator of this bench type end finishing machine starts an automatic air-actuated clamp and feed cycle that ends with rotating cutters pointing the ends of rods. When pointing is completed, the chuck automatically returns the workpiece and unclamps. Forward travel and depth of cut are adjustable. For short run work, machines can be provided with a manually operated feed lever. Machine illustrated can handle any length of up to 2-in. diameter stock. It has a ½-hp motor and two-step sheave that provides eight speeds from 760 to 3920 rpm. Made by **Pines Engineering Co.**, 601 Walnut St., Aurora, Ill.

For more details circle NED-79 F3 on enclosed inquiry slip

STUFFING BOX SEALS
for centrifugal pumps are packaged



No measurements are necessary to position model SB stuffing box seal on the shaft of centrifugal pump. Completely preassembled packaged units are ready for installation. Each design is engineered for particular job requirements, and special hard facings are available for maximum wear resistance at point of sealing. Careful control of hydraulic balance maintains minimum face loads to ensure long life. Made by **Sealol Corp.**, 47 Williard Ave., Providence 5, R. I.

For more details circle NED-80 F3 on enclosed inquiry slip

only SAXTON Kant-Twist® CLAMPS...

COMBINE THESE MODERN FEATURES:

NO TWISTING ACTION — won't "walk" under pressure

DOES NOT OBSTRUCT — insures open work area

POSITIVE PARALLEL ACTION — up to 200% greater strength

TRUNION ASORBS VIBRATION — will not shake loose

SIZES 3" TO 12". A FEW SELECT DISTRIBUTORS NEEDED.

Just a flip of the wrist for a Kant-Twist grip
SAXTON MANUFACTURING CO. · EL MONTE, CALIF.
National Distributors: Centinela Industrial Supply Co. 11930 Inglewood Avenue, Hawthorne, California

For more details circle NED-81 F3 on enclosed inquiry slip

gas carburize clean harden draw | in one atmotrol pit furnace

How versatile can a batch furnace get? Here's a good answer: a single Surface Combustion "Atmotrol" pit type controlled atmosphere furnace can clean harden, carburize, and draw a wide variety of parts with maximum flexibility and shortest interruptions. Furnace operation can be scheduled to deliver maximum output when you need it. For gas carburizing, team up the "Atmotrol" with a Surface MRX atmosphere generator. Lower part of furnace is easily accessible for routine servicing. Whatever your heat treat requirements, ask us for advance proof of performance in Surface Combustion Standard Rated Furnaces. Write for literature Group H-22.

Surface HEAT TREATING EQUIPMENT

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO
ALSO MAKERS OF JANITROL SPACE HEATING—KATHABAR HUMIDITY CONDITIONING

For more details circle NED-82 F3 on enclosed inquiry slip

Make overhead space contribute to plant earnings

CAPACITIES ½ TO 5 TON

CM METEOR WIRE ROPE ELECTRIC HOIST

• SINGLE AND TWO SPEED MODELS

METEORS offer real materials handling help in many ways. Read all about their unusual operating advantages in METEOR CATALOG No. 142—also illustrates all details of suspension and construction. Prices included. Sent on request

CHISHOLM-MOORE HOIST CORPORATION
(Affiliated with Columbus McKinnon Chain Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland

For more details circle NED-83 F3 on enclosed inquiry slip

AN INDISPENSABLE FIRST-AID INSTRUMENT

G-S EYE SWEEP Double Purpose MAGNET AND LOOP

For removing metallic particles, dirt, chips, any foreign matter from the eye. $2.50

Magnetic tip easily picks up the smallest piece of iron or steel. Flexible loop is very convenient for removing cinders, dirt and non-magnetic particles.

Sterilization will not affect magnetic properties or loop. A hard rubber carrying case is provided with each G-S Eye Sweep.

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GENERAL SCIENTIFIC EQUIPMENT COMPANY
TESTED INDUSTRIAL SAFETY PRODUCTS

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RESPIRATORS • PUMPS • GOGGLES • SHIELDS • GLOVES • APRONS • HELMETS

For more details circle NED-84 F3 on enclosed inquiry slip

Wherever you use glass fiber...

For insulation, for sound deadening . . . for duct work, padding, laminating . . . under automobile hoods, roofs, dash panels . . . and a thousand other uses.

You can use a 3M ADHESIVE

Yes, there's a 3M Adhesive to fit your glass fiber application needs . . . whether the qualities you require are fire-resistance, freedom from odor, ability to withstand high humidity, and other properties.

Proven in use by the refrigerator industry, automobile manufacturers, the armed forces and others, 3M Adhesives stick glass fiber to virtually anything.

3M Adhesives will help simplify your operations, too. Let us give you the specifications. For details, write to 3M, Dept. 86, 411 Piquette Avenue, Detroit 2, Michigan.

3M COMPANY — MINNESOTA MINING AND MANUFACTURING COMPANY — ADHESIVES AND COATINGS DIVISION

see our catalog in PRODUCT DESIGN FILE or write for copy

For more details circle NED-85 F3 on enclosed inquiry slip

They had bugs in their bonnets

—but they sired a new champion

Along with early models of blowout preventers, Christmas trees and other oilfield products that have helped to establish Cameron as the *world leader in pressure control*, ancestors of the Non-Lubricated Lift Plug Valve are also proudly displayed in our own private hall of fame.

Each of these predecessors made a worthwhile contribution to the unique valve which is proving itself the champion of all sorts of difficult services in petroleum, chemical and process industries.

Screwed, flanged, or butt-welding ends available in standard ASA and API pressure classes.

Cameron IRON WORKS, INC.

C. I. W., Inc., P. O. Box 1212, Houston Texas. Export: 7912 Empire State Bldg., New York, N. Y.

For more details circle NED-86 F3 on enclosed inquiry slip

RELY ON Morton FIXTURE CLAMPS and COMPONENTS

BACKED BY 30 YEARS OF FINE TOOL MAKING

● Immediate Delivery on STANDARDS!

Standards can be modified to suit your application.

Largest assortment in the industry . . . Highest quality of workmanship and materials maintained. Save time, labor, tool and design costs with MORTON.

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MORTON MACHINE WORKS
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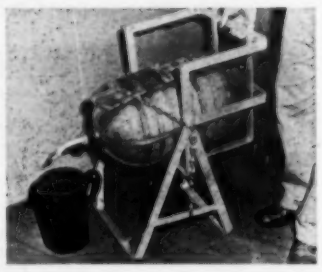
For more details circle NED-87 F3 on enclosed inquiry slip

PHOTOCOPYING MACHINE produces prints in 90 seconds

Compact desk-size Photorapid unit produces exact photocopies of anything written, printed, typed or drawn measuring up to 12 x 17 in. Copies can be reproduced on regular weight paper, on one or both sides, on transparent paper for Diazo or blue prints, or on tissues for air mail use. Book pages can be copied without removing them from book. Automatic in operation, machine plugs into any lighting outlet. Made by **Copy-Craft, Inc.**, Dept. N, 105 Chambers St., New York, N. Y.

For more details circle NED-88 F3 on enclosed inquiry slip

CONTAINER TILTER always pours liquids smoothly



Designed for handling 5 and 6½ gallon containers, this simple tilter prevents accidents caused by spilling, splashing and carelessness in pouring liquids. A chain is provided to hold the container in position and the pouring spout is made of acid-resistant rubber and plastic, fitting openings from 1 to 1⅜-in., with a flow capacity of slightly more than 1 gpm. Model 49 tilter is distributed by **General Scientific Equipment Co.**, 2701 W. Huntingdon St., Philadelphia 32, Pa.

For more details circle NED-89 F3 on enclosed inquiry slip

MECHANICAL TROUBLE DETECTOR pin-points imperfections by sound

Imperfections in all types of mechanical equipment can be detected and pin-pointed with the Serviceman Soundscope which operates through medium of sound. Instrument consists of earpiece containing a sound-box system and transmitter, with a diaphragm capable of picking up sounds and amplifying them until they are clearly audible. Practical for use by steam fitters, maintenance men, engineers, servicemen, inspectors and mechanical trouble-shooters, the compact device comes packed in plastic carrying case. Made by **Jas. P. Marsh Corp.**, Dept. 45, 3501 W. Howard St., Skokie, Ill.

For more details circle NED-90 F3 on enclosed inquiry slip

ONLY TRI-LOK OPEN STEEL FLOORING Gives you all these Service Features!

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Can be fabricated from a variety of metals

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Locked-in Strength — Cross bars are locked in place under 1600 tons pressure. This assures permanent rigidity and a flush top surface.

Clinch-Lock Cross Bars — Bent-over bars lock assemblies into permanent integrated panels.

Self Cleaning — Better than 80% open area assures self cleaning.

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National Distributor for THE TRI-LOK COMPANY
Dravo Building, Fifth and Liberty Aves., Pittsburgh 22, Pa.

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WHAT ARE YOUR MAGNETIC SEPARATOR PROBLEMS?

Remington Rand, Inc., Tabulating Machine Division, Ilion, New York, are one of many manufacturers using Homer Magnetic Separators to cut sorting and handling costs in the processing of ferrous metal parts.

In the operation above, ferrous tabulating machine parts are quickly sorted from abrasive tumbling stones, saving many valuable man hours, and permitting the handling of larger quantities of finished parts. If you have a similar problem—consult us at once—Homer Engineers will be glad to recommend the type of magnetic equipment you need. Bulletins upon request.

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Producers of Magnetic Separator Equipment Since 1923

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FAFNIR Ball Bearing Power Transmission Units

THE FAFNIR BEARING COMPANY
NEW BRITAIN, CONN.

FAFNIR BALL BEARINGS MOST COMPLETE LINE IN AMERICA

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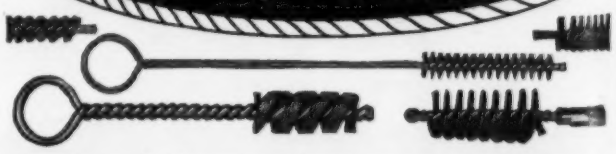
Twisted-in-Wire BRUSHES for every industrial use



• Thousands of people use brushes every day. Telephone companies use Mill-Rose brushes to keep switching contacts clean. Metal working plants use them to clean out holes as small as .067" dia. Tubing makers use them to remove burrs—plumbers to insure tight soldered joints—paper makers to ground static electricity. Users of electric shavers use them to clean out cut whiskers.

Mill-Rose specializes in twisted-in-wire, wire-filled brushes for industry. Their thirty years of brush know-how, applied to your problems, may develop procedures that will save money and speed production—may produce a brush to be sold with your product—may show where brushes can replace more expensive tools.

Write today for Mill-Rose Bulletin listing standard size brushes, always in stock—or outline a problem that a special brush might solve.

HIGH PRECISION INDUSTRIAL BRUSHES TWISTED IN WIRE
The MILL-ROSE Company 1985 EAST 59th STREET CLEVELAND 3, OHIO

For more details circle NED-94 F3 on enclosed inquiry slip

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HYDRAULIC POWER TOOLS FOR INDUSTRY

Send for your copy of Bulletin A-5 . . . It's Free.

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

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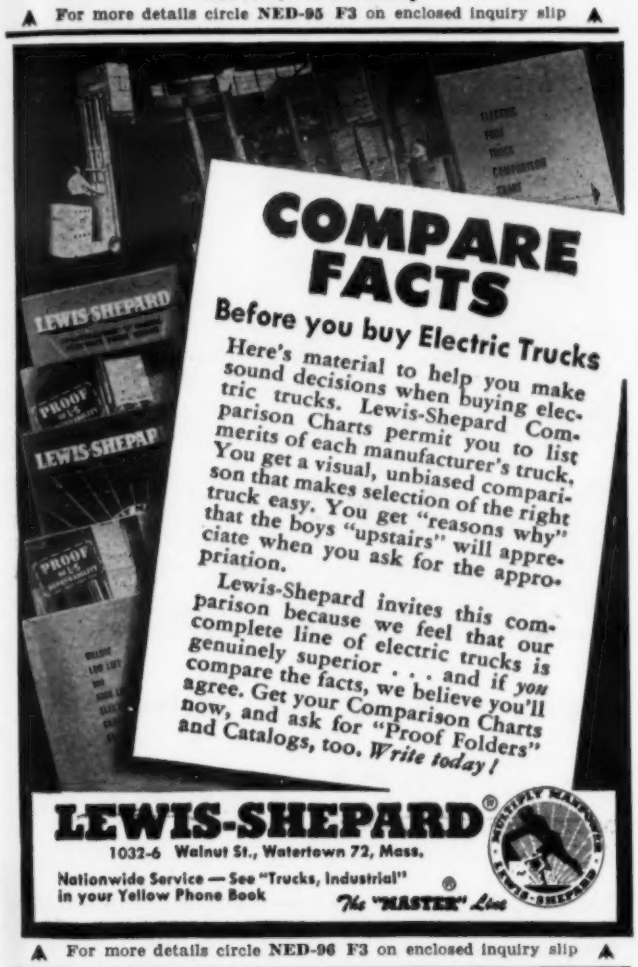

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PROVEN...
INDUSTRIAL STACKED RETAINING RINGS

Proven success is the only success . . . and Industrial Stacked Retaining Rings have been adopted successfully by leading manufacturers in the country. Why? —Because they save time, labor and money. They're *guaranteed* to do the same for you by Industrial Retaining Ring Company . . . originators of stacked open-type retaining rings. Industrial's specially designed base and tool are free with initial order.

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8 WEST SIDNEY AVENUE • MOUNT VERNON 6, NEW YORK

For more details circle NED-97 F3 on enclosed inquiry slip

AIR-OPERATED SAW
can cut up to 21-in. timbers

Using only 60 cu ft of air per minute at 75 to 90 psi, this 14½-lb pneumatic saw will cut up to 21-in. timbers to any depth. Saw is equipped with two reciprocating Sabre blades which are interlocked and which move in opposite directions so that machine is dynamically balanced. Kick, thrust and grab are eliminated. Blades are easily sharpened with few passes of file across face of cutting teeth. Tool is especially useful when building skids, crating large machinery or blocking shipments on flat cars. Made by **Wright Power Saw & Tool Corp.**, 294 Longbrook Ave., Stratford, Conn.

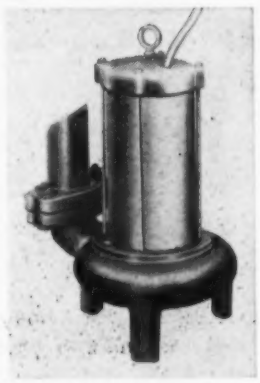
For more details circle NED-98 F3 on enclosed inquiry slip

STEEL BENCH LEGS
for custom-built benches

With the availability of steel bench legs in various styles, shops can build benches to suit their own needs. These leg sets are made from electrically welded formed sections to provide stiffness and rigidity. Types available include single, double, or wall types, all of which are designed to provide benches free from end sway or wall support. Made by **Industrial Bench & Equipment Mfg. Co.**, 98 South St., New Britain, Conn.

For more details circle NED-99 F3 on enclosed inquiry slip

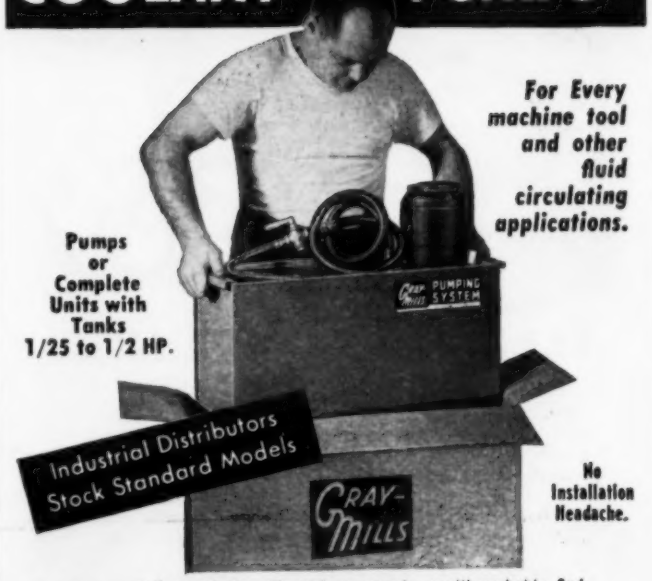
SUBMERSIBLE PUMP
for screenless sewage ejection

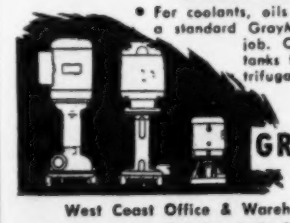


Designed to operate under water and constructed so that neither pump nor motor can be damaged by moisture, this submersible screenless sewage ejector will pump all waste including rags and stringy materials. It is automatically controlled by electrode, so that installation is completely below floor level. The impeller is of the nonclog design. Motors for the units range from ½ to 3 hp, and models with 3 and 4-in. discharge ports are available. Made by **Weil Pump Co.**, 1534 N. Fremont St., Chicago 22, Ill.

For more details circle NED-100 F3 on enclosed inquiry slip

Dependable GRAYMILLS COOLANT PUMPS





• For coolants, oils and compounds, you'll probably find a standard GrayMills Pump or Complete Unit for the job. Over 182 combinations available with tanks from 2 to 128 gallons. Gear and centrifugal pumps.

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3717 N. Lincoln Ave., Chicago 13, Ill.
West Coast Office & Warehouses—4511 Melrose Ave., Los Angeles

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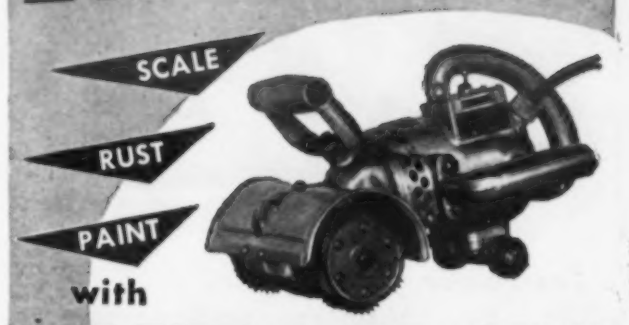

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For more details circle NED-102 F3 on enclosed inquiry slip

SW-42 Double DUALOC Grommet Has a Wide Variety of Uses

• The ACCO *Registered* Double DUALOC Grommet is made of cable-laid wire rope. All-steel construction with flexibility comparable to manila. Spliced section placed over hook doubles bearing surface and increases sling life. The double DUALOC makes this the strongest grommet obtainable, size for size. Yet cost is lower than for ordinary types.

Can be used in vertical, basket, and choker hitches. Proof-tested and warranted at 5 to 1 safety factor. Sizes from 9/32" to 1½" diameter, any circumference.

See your ACCO *Registered* Wire Rope Sling Distributor

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WIRE ROPE SLING DEPARTMENT
AMERICAN CHAIN & CABLE
Wilkes-Barre, Pa., Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.
ACCO Registered DUALOC Slings

For more details circle NED-103 F3 on enclosed inquiry slip

It will pay you to consider

"SUPER-SOAK" PARTS WASHERS

Simple—Practical.

Based on an old, proved principle.

No pumps, sprays, and no handwork.

For the removal of foreign substances, oils, grease, chips, etc., from metal parts.

A very satisfactory "job" at a low cost.

Please write for details.

THE SUPER-SOAK COMPANY, INC.
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Good Sales-territory still open.

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Try the MODERN

SAFETY DRILL TABLE

For Faster, SAFER Work in Your Maintenance Department

Combines a drill table, a vise, a set of parallels and V block. No more lost fingers from hand held jobs that slip. No more 30 minute set-ups for a 1 minute drilling operation. Made specifications on all models. Covers MONEY BACK GUARANTEE and 30 DAY FREE TRIAL OFFER.

In 6 sizes from 8" to 28" dia. We guarantee each Safety Drill Table will save its cost on labor alone in 6 months, to say nothing of plant down time when vital maintenance is delayed even a few minutes.

FREE TRIAL OFFER

WRITE FOR FREE FOLDER

Shows many typical set-ups and use on radial drills. Complete

MODERN MACHINE TOOL CO.
Jackson, Michigan

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RUEMELIN
Blast Cleaning
CABINETS

RUEMELIN Blast Cabinets are practical for a great variety of cleaning operations. They are extensively used to remove heat-treating scale and to clean sub-assemblies in metalworking shops, foundries, aircraft factories, etc. Built in many sizes. Furnished complete with dust control equipment. Write for Bulletin 32-B.

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POWER-TWIN
HYDRAULIC PULLER
WITH CENTER HOLE
REVOLUTIONARY ADDITION TO THE FAMOUS OTC PULLING SYSTEM

- Fits all OTC pulling units
- Works in any position
- Pushes—Pulls
- Faster than screw operation
- Eliminates torque
- More powerful— No friction
- Easier—just pump strokes
- Safer—remote control

CENTER HOLE permits Power-Twin to do jobs no other hydraulic ram can do . . . makes possible application of direct force . . . fast, easy, unlimited adjustment . . . versatile interchange of parts.

LIGHT — COMPACT — POWERFUL — SAFE

The fastest, easiest working, handiest Push-Puller in history . . . sensational in performance, its time and labor saving ability and low cost make it a must for any shop. See your jobber for complete information or write us.

Spline shaft bearing comes off quickly with Power-Twin and OTC Push-Puller and 952 attachment.

No problem to remove drive gear with OTC Power-Twin and 1003L Grip-O-Matic.

OWATONNA TOOL COMPANY
436 CEDAR STREET • OWATONNA, MINNESOTA

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PRESSURE SWITCH
for water, air or hydraulic use

Making use of the Bourdon tube principle, pressure switch is rustproof and positive acting. High and low pressure limits can be adjusted independently to any range within 100 psi, including fractions of an ounce. For pressures over 100 psi, an interchangeable unit can be installed with a single screw. Lubrication is not necessary, and operation is unaffected by oil or abrasives such as scale, sand or lime. Rating on 110-v ac is ½-hp, and the unit measures 3 x 2 in. with a shipping weight of 12 oz. Made by **Simple Mfg. Corp.**, Dept. JB, 214 Temple St., Syracuse, N. Y.

▲ For more details circle **NED-108 F3** on enclosed inquiry slip ▲

ELECTRICAL TESTER
is portable high-current unit

Current actuated and protective devices such as relays, circuit breakers and controls are readily checked and calibrated with this Industrial Multi-Amp portable high-current testing unit. It is also applicable for checking high impedance, low current devices. Rated at 1 kva, instrument requires input of 0 to 10 amp and 110-v 60-cycle ac. Output is accurately adjustable from 0 to 500 amp in five ranges. Price is $275. Made by **Multi-Amp Corp.**, 119-A Cross St., Harrison, N. J.

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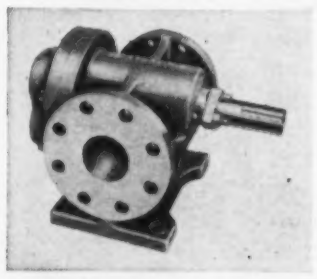
ROTARY GEAR PUMP
capacities are 1 to 500 gpm



Designed for positive displacement of lubricating liquids, this Hydrex rotary gear pump will handle fluids and semifluids with viscosities from 32 to 250,000 SSU. Capacities are 1 to 500 gpm at 300 psi for continuous duty and 500 psi for intermittent service. Body and head are only two castings used and the two precision rotor gears are only moving parts. Shafts are hardened and ground at the heavy duty roller bearings, and only one stuffing box is used. All connections over 2 in. are flanged, and all machined surfaces are ground for easy piping and aligning. Made by **Sier-Bath Gear & Pump Co.**, 9269 Hudson Blvd., North Bergen, N. J.

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Extra-Smooth Alignment...

...LOVEJOY
FLEXIBLE COUPLINGS

Soundly engineered, LOVEJOY Flexible Couplings provide maximum alignment correction for smooth power transmission. Vibration, starting torque and shock of intermittent loads are dampened and absorbed. Operational efficiency and economy is increased, motor and machine protected—their service life lengthened. The end result is not only a more profitable, but an improved finished product.

There is a LOVEJOY Flexible Coupling for every requirement. Cushions are made of materials best suited to the load conditions.

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5003 W. LAKE STREET CHICAGO 44, ILLINOIS
Also Mfrs. of Lovejoy Universal Joints and Variable Speed Transmissions

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INVINCIBLE
"All Service"
Vacuum Cleaner Provides Efficient
Wet or Dry Pick-Up

Rubber Bumpers Prevent Scuffing

Advanced design of Invincible's ⅜ h.p. "All Service" Vacuum Cleaner entirely eliminates loss of efficiency due to humidity sealing the filter bag. A positive automatic shut-off valve prevents messy overflowing that often damages the cleaner. Write for complete story . . .

ASK FOR A DEMONSTRATION • NO OBLIGATION

INVINCIBLE VACUUM CLEANER MFG. CO.
Dover, Ohio

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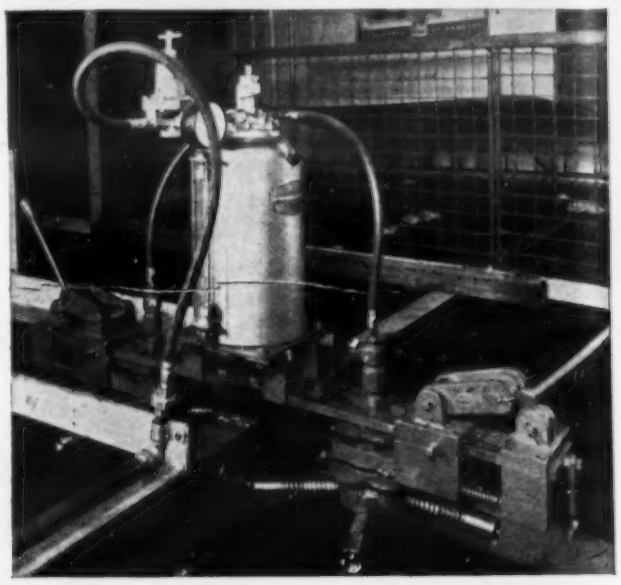

Here's How to Lubricate "Skyhooks"

Close-up of an installation in one of our great electric refrigeration plants — lubricant is released only when fitting and gun are in alignment.

"Go hang it on a skyhook" undoubtedly inspired the overhead conveyor, and while they have been a great boon to production and the saving of floor space, they do pose a very specialized problem of lubrication. . . . Not only must there be adequate lubrication for a wide range of temperatures, but it should also be a controlled supply, to avoid the hazard of grease from overhead. Fauver Automatic Conveyor Grease Lubricators meet all of the problems accompanying the lubrication of "Skyhooks" . . . . Send for complete information regarding this automatic, positive lubrication for your conveyors.

FAUVER Catalogue literature also includes a twenty page section relative to Hydraulic Hose Assemblies and Fittings; data regarding Bullseye Coolant Spouts etc., a request will bring any or all of this information.

FAUVER
J. N. FAUVER CO., INC.

J. N. FAUVER
COMPANY, INC.
51 WEST HANCOCK, DETROIT 1
OFFICES...FLINT, GRAND RAPIDS
BRANCH...DAYTON, OHIO

▲ For more details circle **NED-113 F3** on enclosed inquiry slip ▲

For maximum "see-ability"... better work...increased production

LUSTRA JADE-LITE

LUSTRA JADE-LITE gives a special quality of light that steps up "see-ability". In addition, its unique tone reduces glare, helps eliminate eye-strain, produce better work and boost production. Jade-Lite is absolutely tops for use in critical work areas. Write for the whole story on Jade-Lite Fluorescent Tubes—it can bring new efficiency and economy. Lustra Corporation, Dept. R-6, 36 Washington St., Brooklyn 1, N. Y.

Lustra
AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOTLITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

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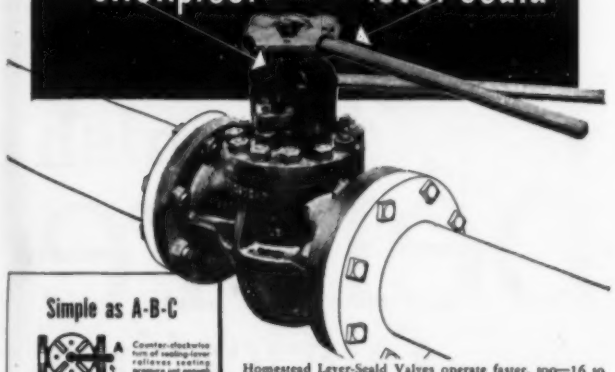
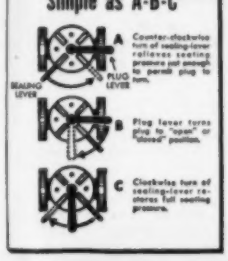
• at all times • under all conditions
• throughout its long lifetime of service

This Homestead Valve will always work
it's **stickproof** because it's **lever-seald**



Simple as A-B-C



Homestead Lever-Seald Valves operate faster, too—16 to 28 times faster than screw-stem type valves. They require no lubrication . . . provide unobstructed, straight-line fluid flow with minimum pressure drop . . . afford maximum protection to sealing surfaces against corrosive and erosive line fluids. And because only a quarter-turn is needed for full opening or closing, they are ideal for installation in restricted areas where operation of other types of valves might be difficult.

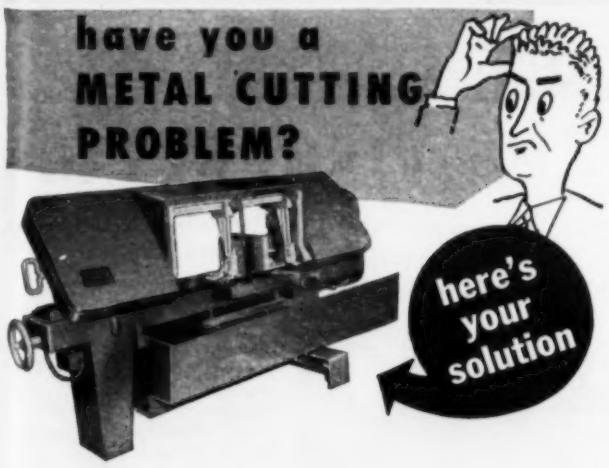
Next time you have damaged or sticking valves, replace them with Homestead Lever-Seald Plug Valves. Once you use them you'll never be satisfied with ordinary valves.

For complete information write for Valve Reference Book No. 39-3.

HOMESTEAD LEVER-SEALD PLUG VALVES
HOMESTEAD VALVE MANUFACTURING COMPANY
Serving since 1922
P. O. BOX 84 Coraopolis, Pa.

▲ For more details circle **NED-115 F3** on enclosed inquiry slip ▲

have you a METAL CUTTING PROBLEM?



Want continuous or intermittent production cutting? Need accuracy of a few thousandths with no burr and minimum kerf? Want to cut bars, rounds, angles and odd shapes at lowest possible cost? Then, get a Kalamazoo Band Saw!

Three sizes are available for cutting 6" to 12" round and from 6" x 10" to 12" x 20" flat. All models can be had with casters for complete portability. Each model has many exclusive features which assure *better cutting at lowest cost.* Write for complete details.

MACHINE TOOL DIVISION
Kalamazoo TANK and SILO CO.
612 HARRISON ST., KALAMAZOO, MICHIGAN

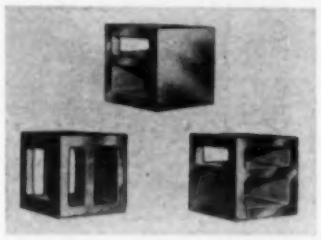
▲ For more details circle **NED-116 F3** on enclosed inquiry slip ▲

WRITE-ON LABELS
card-mounted, self-sticking type

Printed form and write-on space are combined on one quick-to-use self-sticking inspection label. Printed part of label tells if the item is to be accepted, rejected or overhauled, or whether to return to vendor, hold for inspection or rework. Different color background for each wording aids in identification. Space is ample for writing necessary data with pencil, pen, ballpoint pen, rubber stamp or typewriter. Fourteen labels are mounted on dispenser card and can be carried in pocket. In addition to stock wordings, label is available in any size, color, wording or shape for special requirements. Made by **W. H. Brady Co.**, Dept. 334, 727 W. Glendale Ave., Milwaukee 12, Wis.

▲ For more details circle **NED-117 F3** on enclosed inquiry slip ▲

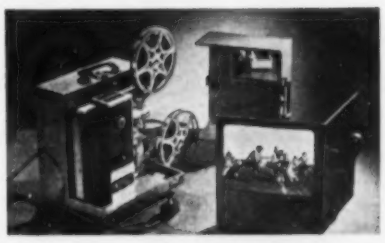
UNIVERSAL BOX ANGLE
in 6 x 6 x 6 and 8 x 8 x 8-in. sizes



Clamping facilities of an angle iron; stability, balance and accuracy of a box parallel; and perpendicular flat surface of an angle plate are combined in this universal box angle. Tool is semisteel with precision ground finish in 6 x 6 x 6 and 8 x 8 x 8-in. sizes. Other sizes can be made to order. Made by **Challenge Machinery Co.**, Dept. NED, 1943 Thomas St., Grand Haven, Mich.

▲ For more details circle **NED-118 F3** on enclosed inquiry slip ▲

16-MM PROJECTOR
for analyzing movie films



Designed for those desiring to study 16-mm motion picture films closely, the Kodascope Analyst projector features a two-speed governor-controlled second motor which drives the film-moving mechanism only. A constant speed motor drives a blower for optimum cooling, regardless of projector speed or direction of film travel. With these features, films can be reversed frequently during projection and action can be studied in detail. Remote reversing switch is provided, as is a daylight projection viewer carried in the projector case. Made by **Eastman Kodak Co.**, Dept. E, 343 State St., Rochester 4, N. Y.

▲ For more details circle **NED-119 F3** on enclosed inquiry slip ▲

DRILL HOLES AS SMALL AS .030" IN ANY METAL OF ANY HARDNESS OR THICKNESS!

The M-300 Elox Electron Drill* combines the best in the 'arc machining' process. In addition to drilling holes as small as .030" it is adjustable for machine finishes ranging from *coarse, fine, extra fine and super fine* ...on any metals from magnesium to cemented carbide. The M-300 with exclusive Elox Automatic Feed allows for continuous operation with much of the human element removed. Using electrodes costing less than 3¢ per inch, with 'super fine' cutting, 1" of electrode will cut as much as 33" of hardened steel! Here indeed, is a dual-purpose machine that is being used for production machining of hardened steels and for removing broken drills in salvage. Write today for details and list of users.

ELOX CORPORATION OF MICHIGAN
738 N. ROCHESTER RD. • CLAWSON, MICHIGAN

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DESIGNING A NEW PRODUCT?
send for
free booklet
with "*How-to-use*" data on
MASONITE PRESDWOOD

Here's help for harassed industrial designers. Fact-filled, illustrated booklet tells how and where Masonite Presdwood® adds strength, durability and sales appeal to products in scores of fields. These strong, grainless, all-wood hardboard panels are 28 ways better . . . you can even bend them permanently. Come in 44 types and thicknesses. Send for your copy of "A Guide for Product Designers" today. No obligation.

BETTER HARDBOARDS FOR BETTER PRODUCTS
MASONITE® CORPORATION
DEPT. NED-6, BOX 777, CHICAGO 90, ILL.
"Masonite" signifies that Masonite Corporation is the source of the product

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NEW! Brightboy BL SERIES ABRASIVES
with that
JUST-RIGHT SMOOTH BITE

For All Metals, Plastics, Wood, Glass, Laminated Materials

Time- and work-saving applications hitherto beyond the limits of other finishing methods.

BURRING, CLEANING, FINISHING, POLISHING,
In one Time-Saving Operation!

ASK your dealer for brochure or write us for it, and on any problem where finishing is involved.
BRIGHTBOY INDUSTRIAL DIVISION
Weldon Roberts Rubber Co.
95 No. 13th Street Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS
Brightboy
RUBBER CUSHIONED ABRASIVES

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SEAL OFF LEAKS

√Quick!
√Easy!
√Low Cost!

Stop Moisture Penetration thru Basement Walls . . .

Leaks in concrete walls, masonry, cinder block, etc. can be stopped quickly with FLEXTITE. Actually seals against water pressure. Efficient as a trowel coat for sealing off water and dampness. Transforms leaky basement walls into dry surfaces. Used in elevator pits, tunnels, dams, tanks, retaining walls, etc. (Minimum quan. 6 gal.)

MAIL COUPON for TRIAL OFFER!

FLEXTITE

FLEXROCK COMPANY *Offices in Principal Cities*
3603-F Filbert St., Philadelphia 4, Pa.
Please send me complete FLEXTITE information and details of TRIAL ORDER PLAN—no obligation.
Name .....
Company .....
Address .....

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THE NEW CANTON Nº 00

For Shearing Light Scrap and for Cutting Metals

Bulletin 1-00 gives complete details.

FEATURING

ADJUSTABLE KNIFE SEAT: Requires no shimming after knives have been re-ground.

BRONZE BUSHINGS: King pin, crank-shaft and counter shaft completely bronze bushed.

CAPACITY: 1½" rounds or squares in mild steel and ⅜ x 12" in plates. Knives 12" long.

PLUS: All the other improved features built into the complete new line of CANTON Alligator Shears.

The HILL ACME CO.
"CANTON" DIVISION 1201 W. 65TH ST., CLEVELAND 2, OHIO

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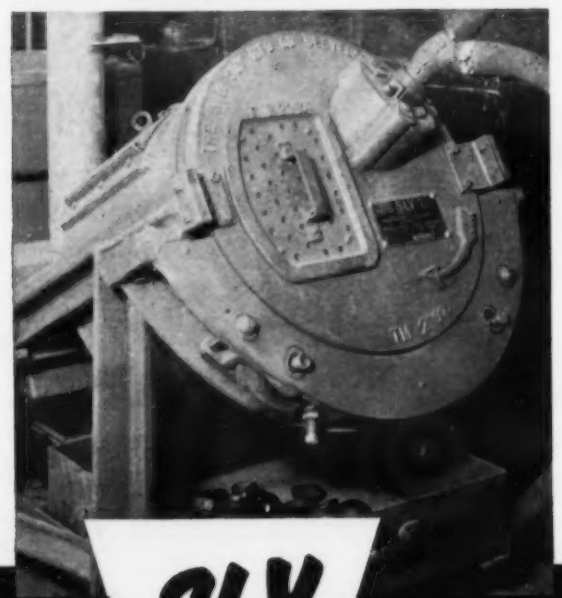
BLASTCLEAN small Parts



SLY THE NO. 4 TILTED BLAST MILL

Offers you Thorough, Quick, Low Cost Cleaning

THOROUGH CLEANING. Because of its tilted position and the rolling action of the barrel, with convex perforated bottom plate, all pieces are brought to the top frequently and receive *short range, powerful blasting.*

QUICK, TOO. Not only do the pieces receive a direct blast at their greatest depth but also get the effect of rebounding abrasive particles within the load. And this speeds cleaning.

LOW COST CLEANING. Very simple in design and heavy in construction, this Blast Mill serves for years and years with the very minimum of maintenance. Add to this its *quantity production* and the result is low cost cleaning.

WIDE RANGE OF APPLICATION

Non-Ferrous Castings—Put them in the mill, cores and all, thereby eliminating time for core removal.

Forgings and Stampings—An infinite variety is being cleaned by this mill for purposes of grinding, dipping, painting, etc.

Hardened Steel Parts—Twist drills, reamers, piston pins, taps and dies, small cut gears, etc., for quick removal of heat treat scale.

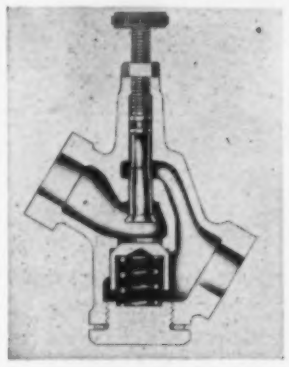
Ask for Bulletin No. 82.

THE W. W. SLY MANUFACTURING CO.
4748 TRAIN AVENUE • CLEVELAND 2, OHIO

Branches in: New York • Chicago • Philadelphia • Syracuse • Detroit • Buffalo Cincinnati • St. Louis • Minneapolis • Birmingham • Los Angeles • Toronto

▲ For more details circle NED-125 F3 on enclosed inquiry slip ▲

SPEED CONTROL VALVE can be mounted in any position



Split-second timing of piston movement by positive control of air flow can be provided by this adjustable speed control valve. It can be mounted in any position between operating valve and one or both ends of a cylinder to provide air flow adjustment. Flow-controlling orifice can be adjusted from practically zero to wide open. Valve is offered with ¼, ⅜, ½, ¾, 1 and 1¼-in. IPT. Made by **Ross Operating Valve Co.,** Dept. 161, 120 E. Golden Gate Ave., Detroit 3, Mich.

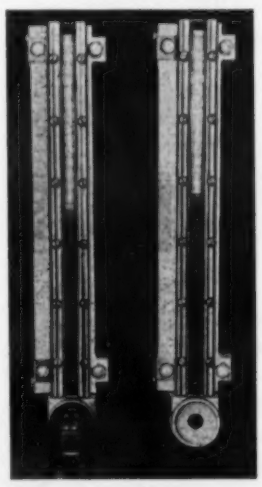
▲ For more details circle NED-126 F3 on enclosed inquiry slip ▲

LIQUID COOLER-HEATERS of cast aluminum

Controlled heating and cooling of liquids can be provided by a single compact unit. Combination cooler-heaters are made of cast aluminum, with separate refrigerant and liquid circuits and an electric heating element. Latter is encased in a steel sheath filled with magnesium oxide. Made by **Heat-X-Changer Co.,** 10 N. Main St., Brewster, N. Y.

▲ For more details circle NED-127 F3 on enclosed inquiry slip ▲

LIQUID LEVEL & TANK GAGE features ease of reading



Particularly useful for colorless liquids and daylight readings, Glo-Rod liquid level and tank gages give instantaneous accurate readings without light loss through reflection. Normal illumination is sufficient to transmit light upward through a plastic rod to cause liquid to appear as dots below the surface and as dashes above the liquid level. When used in darkened areas, flashlight or permanent lighting unit can be employed. Wide variety of sizes is available for all sizes and shapes of containers. Made by **Nathan Mfg. Corp.,** 416-A E. 106th St., New York 29, N. Y.

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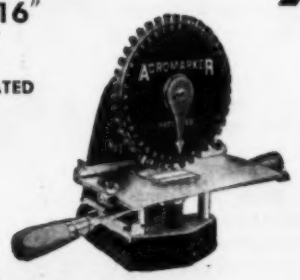
ACROMARK MEANS "ACCURATE MARKING"

THE ACROMARKER NAME PLATE AND PARTS STAMPING MACHINE COMES IN SIZES FROM 1/16" TO 3/16"

HAND OPERATED AND FOOT MODELS



NON-TIRING FAST-MAKES PERFECT STAMPING OF LETTERING & NUMBERING EASY AS DRIVING A CAR

DIE WHEELS AND DIES ARE REPLACEABLE.

The ACROMARK Company
7-11 MORRELL ST., ELIZABETH 4, N. J.
"THE ORIGINAL MARKING SPECIALISTS"

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PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •

Could you **blame** yourself if failure to safeguard property resulted in loss? After all, isn't property protection a responsibility of all management? Security is a job for Page Chain Link Fence, available in heavily galvanized Copper-Bearing Steel, rust-immune Stainless Steel or corrosion-resisting Aluminum. But PAGE means more than a quality product. It is a complete fence service, performed by more than 100 firms having technical training and fence erecting know-how, and conveniently located throughout the country. For illustrated data and name of firm nearest you—

***Write** to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.*

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

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ENAMELSTRIP

STEEL • ALUMINUM • BRASS • PRE-FINISHED COLOR COIL

assures a **perfect finish**

before fabricating

You can easily cut production time and cost with Enamelstrip, the continuous-feed, pre-colored metal coil. Leading manufacturers of metal products are using it with outstanding results in a wide variety of items. Enamelstrip's exclusive, flexible finish withstands the stresses of drawing, bending and forming without cracking or peeling. Many companies have entirely eliminated their finishing departments! Any metal in any finish will be coated and slit to your own specifications.

Write TODAY for detailed color bulletin.

THE COATED COIL CORPORATION
507 West 30th Street, New York 1 • LOngacre 5-3161

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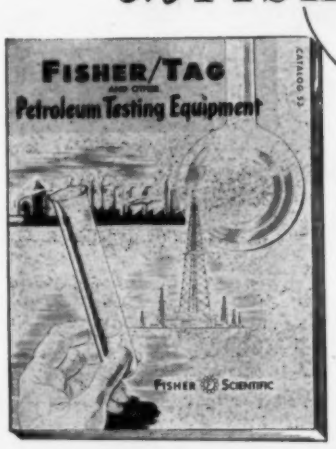
a new catalog....

on FISHER/TAG

AND OTHER PETROLEUM TESTING EQUIPMENT



This new catalog completely describes the comprehensive line of Fisher/Tag and other petroleum testing equipment and provides a ready reference to important petroleum tests.

All the petroleum testing apparatus represented in this catalog for conducting tests outlined by the American Society for Testing Materials are in exact accordance with their specifications. When methods or specifications change, the necessary alterations are made to meet the latest ASTM specifications.

There are a great many testing instruments and apparatus for the petroleum industry available today. Know all about them through this very useful new free catalog.

SEND FOR YOUR FREE COPY TODAY!

FISHER SCIENTIFIC
717 FORBES ST. PITTSBURGH 19, PA.

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WATER PICK-UP

with SPENCER VACUUM

Any Spencer Vacuum System will pick up liquids—after scrubbing, accidental spillage or floods and from sump tanks. For large volume pick up, special collector tanks from 6 to 100 gallons capacity or liquids may be discharged direct to the sewer.

Spencer also picks up hot materials, reclaims metals and of course will clean large industrial areas and your offices in a remarkably short time. Bulletin on request.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

466-P

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CRANE WHEELS AND WHEEL ASSEMBLIES

INSTALL THESE WHEEL ASSEMBLIES complete with axles, bearings, drive gears, grease fittings and all necessary parts for a complete installation. There are sizes, types, and styles of mounting to suit every requirement.

DOUBLE FLANGED WHEELS range in standard tread diameters from 7½" to 24"; SINGLE FLANGED WHEELS from 4" to 8". Wheels are available unmounted or in completely assembled units.

WRITE FOR CATALOG — Complete line of Downs Crane Wheels and Assemblies are illustrated and described in new Catalog No. 3540. Specifications included. Write today!

DOWNS CRANE & HOIST CO.

MECHANICAL ENGINEERS — 540 W. VERNON AVENUE, LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks • Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake Crane Hook Blocks

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protect that air supply

ON AIR-CLAMPING DEVICES — AIR LINES, HOLDING CIRCUITS — PURGING SYSTEMS, etc.

for safety's sake

With leakproof

CIRCLE SEAL PRECISION

CHECK VALVES

Positive, dead-tight sealing assurance never before offered *plus* unprecedented, maintenance-free service life is provided by the CIRCLE SEAL principle.

The ultimate answer to check valve requirements from very low pressure to 3,000 psi.

JAMES-BOND-CLARK

2181 E. Foothill Blvd. • Pasadena 8, Calif.

Engineering data sent free of charge on request.

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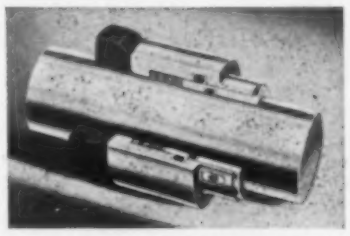
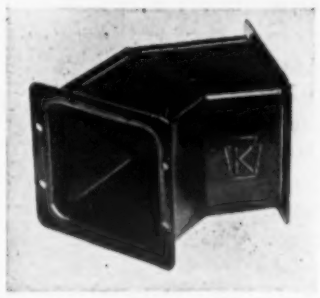
PUMP SHAFT O-RING SEALS for pressures to 200 and 1000 psi



Simplicity in design is feature of O-ring mechanical seals for rotating shafts on centrifugal pumps handling chemicals, petroleum products, edible liquids, pulp liquors and other liquids. Type O unbalanced seal is made for pressures up to 200 psi, while type OB balanced seal, illustrated, handles pressures up to and over 1000 psi. Both can be supplied with single or multiple spring, in either pin-drive or sleeve-drive construction. Type O seals are made for packing spaces 5/16-in. and larger, type OB for ⅜-in. spaces and larger. O-rings can be Teflon, Buna-N, Neoprene or Silicone. Made by **Garlock Packing Co.**, 300 Main St., Palmyra, N. Y.

▲ For more details circle NED-136 F3 on enclosed inquiry slip ▲

FLANGED ELBOWS for electrical wireways



Added to line of UL-approved wiring equipment are 22½ and 45-degree flanged elbows for use with 2½, 4 and 6-in. square-flanged hinged-cover wireways. Elbows are flanged at both ends to permit fast and easy assembly of wireway sections. Material is heavy Code-gage steel with gray baked enamel finish. Made by **Keystone Mfg. Co.**, 23330 Sherwood Ave., Center Line, Mich.

▲ For more details circle NED-137 F3 on enclosed inquiry slip ▲

PLATFORM TRUCKS lightweight, capacity is 750 lb

Twenty-four-in. wide overall to allow ample clearance in limited space, both models of this platform truck are lightweight and have a load capacity of 750 lb. The metal-clad platform of one model is 36-in. long and that of the other 48-in. long. Loading surfaces measure 6 and 8 sq ft, respectively. Both models have two swivel type 6-in. caster wheels and two stationary wheels of 8-in. diameter. Solid rubber wheels give quiet operation, reduce load shocks and protect floor surfaces. Made by **Milwaukee Truck & Caster Corp.**, 6520-N W. River Pkwy., Milwaukee 13, Wis.

▲ For more details circle NED-138 F3 on enclosed inquiry slip ▲

Keeps Clothes Fresher! penco

"AIR-LITE" LOCKER

The steel locker that "breathes" through ¾" mesh door openings—an exclusive Penco feature!

- MAXIMUM NATURAL VENTILATION
- DAMP CLOTHES DRY FASTER
- CONTENTS CAN BE INSPECTED—WITHOUT OPENING DOOR
- SAFE, PILFER-PROOF STORAGE
- PENCO QUALITY CONSTRUCTION
- SINGLE AND DOUBLE TIER TYPES—IN A WIDE RANGE OF SIZES

85TH YEAR OF SERVICE

Send for complete locker catalog

PENN METAL *Corporation of Penna.*

82 OREGON AVE., PHILA. 48, PA.

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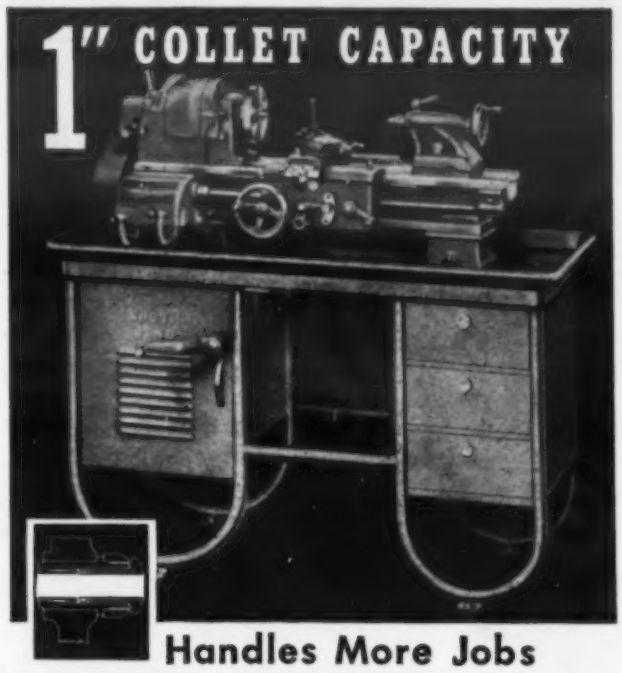
1" COLLET CAPACITY



Handles More Jobs

1" collet and 1⅜" spindle bore give this lathe the capacity for a greater variety of jobs. Its 48 power feeds for turning, 48 for facing and 48 for threading give you everything you need for any job. And its accuracy and rugged construction assure precision work through years of dependable service. *Write for catalog.*

South Bend 10" x 3', 1" Collet Capacity, Quick Change Gear Precision Bench Lathe (illustrated above).

Building Better Tools Since 1906

SOUTH BEND LATHE — SOUTH BEND 22, INDIANA

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FEEL THE DIFFERENCE!

OHMITE® RHEOSTATS

...HAVE UNMATCHED Smoothness of Operation

Turn the knob of an OHMITE rheostat, and feel the gradual, smooth-gliding action! You get the close, uniform control usually found in fine, laboratory rheostats. Special OHMITE design features are the reason... pivoted universal-joint action of the contact brush for flush-floating contact; a metal-graphite brush for perfect contact and negligible wear on the wire; and a patented tempered steel contact arm for uniform contact pressure. No wonder these all-ceramic and metal rheostats are "tops" in electrical control!

Write on Company Letterhead For Catalog No. 40

OHMITE MANUFACTURING CO.

4921 Flournoy Street

Chicago 44, Illinois

Be Right with OHMITE

RHEOSTATS • RESISTORS • TAP SWITCHES

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FAST MOVING LINE TO MORE PROFITS

VIA "STREAMLINER" CONVEYORS

Yes . . . on the move to faster handling of goods, at a reduction in handling costs! If you've never visualized a "Streamliner" engineered conveyor in your plant, just take a moment to determine where you could use one. Shipping? Receiving? Production? Storage? No matter where, "Streamliner" Conveyors will save you time, money and man-effort. Get complete facts today by requesting Bulletin 302.

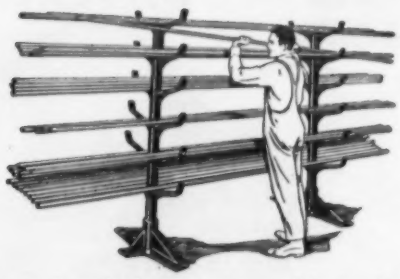
Ferguson designs and manufactures a variety of conveyors and conveyor systems to meet individual requirements.

HARRY J. FERGUSON COMPANY

133 WEST AVENUE, JENKINTOWN, PENNA.

▲ For more details circle NED-142 F3 on enclosed inquiry slip ▲

for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save waiting mechanics time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

▲ For more details circle NED-143 F3 on enclosed inquiry slip ▲

send for this sample . . . it may open your eyes!

A simple request will bring you a sample of one of the most amazing materials ever developed by science. It is Tufflex, the fiber felt, and it's cutting production costs—adding quality—in many industries today. Tufflex is downy soft—amazingly resilient. It cushions. It withstands heavy impact blows. It insulates. It deadens sound. It is easily fabricated to any size or shape. Tufflex is available in a variety of densities and thicknesses—and in moisture resistant and fire retardant forms. Learn more about the many new uses for Tufflex—send today for your sample and complete information. Wood Conversion Company, Dept. 127-63 First National Bank Bldg., St. Paul 1, Minnesota.

TUFFLEX* A Product of Weyerhaeuser

*REG. U. S. PAT. OFF.

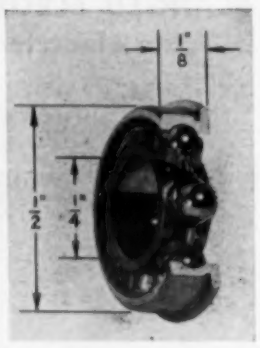
▲ For more details circle NED-144 F3 on enclosed inquiry slip ▲

SERVICE CART transports tools and supplies

For use in stock rooms, stores, garages and shipping and receiving departments, No. 250 materials handling cart is 30-in. long x 16-in. wide x 32-in. high, and is furnished with two 5-in. swivel and two 5-in. stationary rubber wheeled casters for easy movement. Shelves are made of 16-gage sheet steel with a 3-in. turn up and hemmed all four sides. Corner ports are in angle steel. Made by **Angle Steel, Inc.**, Dept. N, Plainwell, Mich.

▲ For more details circle NED-145 F3 on enclosed inquiry slip ▲

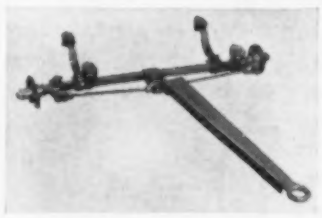
BALL BEARING developed for instrument use



Recommended for gimbals and general precision instrument assemblies, FR188 ball bearing is lightweight and has a straight OD. It is manufactured to ABEC Class 5 tolerances or better and has a two-piece cone controlled, cylindrical pocket pressed metal cage. Balanced design favors low and uniform running torque as well as quiet operation. Materials are either type 440 stainless steel or SAE52100. Made by **New Hampshire Ball Bearings, Inc.**, Grove St. A, Peterborough, N. H.

▲ For more details circle NED-146 F3 on enclosed inquiry slip ▲

STEERING AXLE ASSEMBLY load capacity is 2000-4000 lb



Features of 1¾-in. square beam front automotive steering unit added to the Caravan axle line are ground king and center pins with ample bearing length on the steering knuckle of the king pin to provide good fit and service and maximum roadability. Assembly has a load capacity of 2000 to 4000 lb. Also featured in the 1A1 series four-wheel unit are screw-in type grease fittings and controlled camber, toe-in and caster for good trailing action at high speed. Application can be for transporting generators, air compressors, pumps, fire fighting apparatus or drilling equipment over rough or smooth surfaces. Made by **United Mfg. Co.**, 10 W. Interstate St., Bedford, O.

▲ For more details circle NED-147 F3 on enclosed inquiry slip ▲

Heart of a Champion

FACTS OF LIGHT

TUNGSTEN

A highly magnified tungsten coil on a mandrel.

99.99% pure tungsten makes up the heart of a Champion. Asbestos, or even fire brick, would melt at the 5000° glowing temperature of a tungsten filament within an incandescent lamp. A 6 watt lamp filament is made from tungsten wire drawn to a diameter of .00047 inch. A variation of five-millionths of an inch can affect filament life as much as 25%.

Backing up the heart of a Champion are years of experience. Champion lamp suppliers offer the utmost in lighting value and service. Specify Champion lamps.

May we mail you this new booklet S, CHAMPION QUALITY, containing many other facts about lamps?

CHAMPION LAMP WORKS

Lynn, Massachusetts

A DIVISION OF CONSOLIDATED ELECTRIC LAMP CO.

▲ For more details circle NED-148 F3 on enclosed inquiry slip ▲

SUPER FINISH OF UNIVERSAL DRILL BUSHINGS reduces tool wear to a minimum

One sure way to cut excessive tool wear in your operations is to specify Universal Drill Bushings because their superfinish bores help reduce wear on production tools to an absolute minimum, especially in close tolerance work. The blended radius on the top inside diameter helps prevent tool hang-up and breakage. 100% concentricity and hardness tests insure accuracy, uniform high quality and long life. Knurled heads provide a quick, sure grip. Universal Drill Bushings are produced in a complete range of standard sizes and lengths. Orders for special dimensions will receive prompt attention. For complete information, write to the office nearest you—Universal Engineering Sales Co., 1060 Broad St., Newark 2, N.J.; 5035 Sixth Ave., Kenosha, Wis. — or our home office.

UNIVERSAL ENGINEERING COMPANY

FRANKENMUTH 5, MICHIGAN

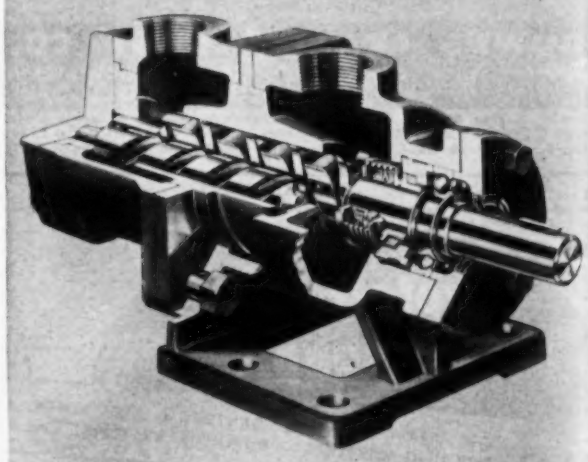
171-A

▲ For more details circle NED-149 F3 on enclosed inquiry slip ▲

DE LAVAL IMO PUMPS

Your De Laval Field Representative can help solve your pumping problems.

Profit by his sound, versatile experience. He can aid you in selecting the IMO Pump you need . . . give you facts and figures on performance . . . bring valuable judgment to bear on your specific fluid handling application.



For example, De Laval-IMO Series A313B Pump handles light or viscous fluids in hydraulic systems, rotary and steam atomizing oil burners, lubrication, governing systems and similar services. Use it for capacities to 80 gpm, pressures to 275 psi and intermittent pressures to 325 psi.

IMO Rotary Pumps have only three moving parts . . . offer all these advantages: high speed operation, quietness, freedom from vibration, simplicity and reliability. Models can be furnished for almost any fluid handling problem in capacities to 750 gpm and pressures to 1,500 psig. *Ask for Bulletin LG-A which gives data in chart form on the wide range IMO line.*

DE LAVAL *IMO Pumps*

DE LAVAL STEAM TURBINE COMPANY

808 Nottingham Way, Trenton 2, New Jersey

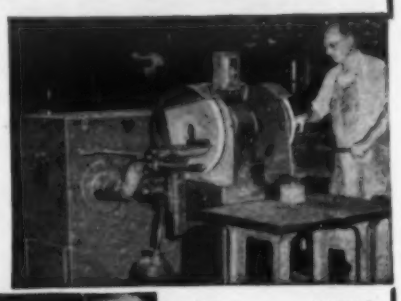
DL194

▲ For more details circle NED-150 F3 on enclosed inquiry slip ▲

STOP DUST
INSTANTLY WITH **DUSTKOP**

300 cfm to 10,000 cfm standard pre-tested units available in stock

- LOW COST
- IMMEDIATE INSTALLATION
- SAVES HEAT
- PORTABLE



2405 ◄ cfm 1400▲ cfm

DUSTKOP

WRITE FOR

- RECOMMENDATION about your dust problem. No obligation
- CATALOG 605-2

AGET-DETROIT CO.
202 S. Main St. Ann Arbor, Mich.

▲ For more details circle NED-151 F3 on enclosed inquiry slip ▲

SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non-rusting aluminum alloy.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

▲ For more details circle NED-152 F3 on enclosed inquiry slip ▲

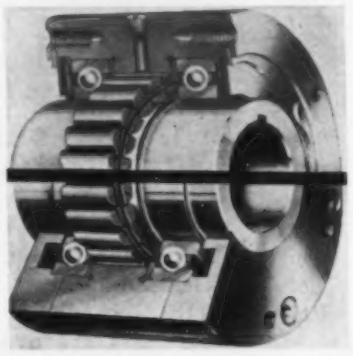
Lindberg Air or Hydraulic Cylinders provide dependable, low cost power for lifting, forcing, pulling, pressing, pushing and clamping. Ask for bulletin No. 701, "Lindberg Hydraulic Cylinders" .. or No. 731, "Lindberg Air Cylinders."

LINDBERG CYLINDERS AIR HYDRAULIC

Lindberg Engineering Company, 2482 West Hubbard St., Chicago 12, Ill.

▲ For more details circle NED-153 F3 on enclosed inquiry slip ▲

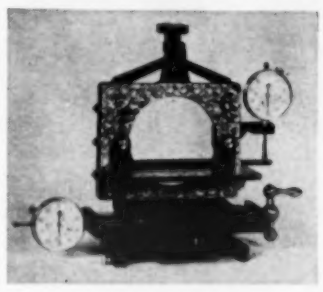
OVER-RUNNING CLUTCHES
can now operate at over 3000 rpm



A centrifugal throw-out sprag assembly now makes it possible for Formsprag ball-bearing over-running clutches to operate at speeds exceeding 3000 rpm. Assembly eliminates possible rubbing between sprags and the inner race. Construction of these clutches consists of outer housing, inner race, full complement of sprags and energizing springs. The sprag principle provides infinite number of gripping positions and eliminates backlash. Maximum torque capacity and long life because of changing contact points are advantages. Made by **Formsprag Co.**, 23595 Hoover Rd., Van Dyke, Mich.

▲ For more details circle NED-154 F3 on enclosed inquiry slip ▲

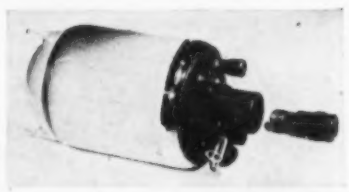
COORDINATE MEASURING STAGE
for bench optical projectors



Coordinate measuring stage as an accessory to any optical projector will give 1-in. longitudinal travel, 1-in. vertical travel, and 1-in. focusing travel. With the addition of two 1-in. travel dial indicators, measurements in coordinates can be made. The stage is also equipped with adjustable right angle platform which can be positioned in three different horizontal planes. Made by **Portman Instrument Co.**, 6-A Manhasset Ave., Port Washington, N. Y.

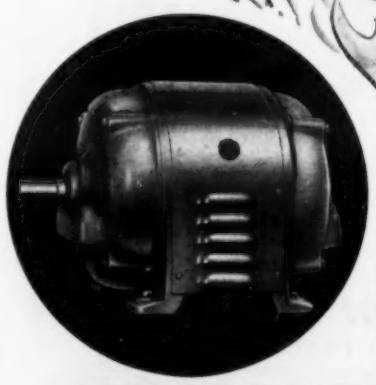
▲ For more details circle NED-155 F3 on enclosed inquiry slip ▲

X-RAY IMAGE AMPLIFIER
image is 800-1200 times brighter



Used in place of the conventional fluoroscope screen, this x-ray image amplifier produces images 800 to 1200 times brighter than those obtained with the conventional fluoroscope. Although the device reduces the image to one-ninth of original size, viewing it through a simple nine-power microscope returns it to its original size. Amplifier makes it unnecessary for the radiologist to condition his eyes in a dark room prior to using a fluoroscope. Available from **North American Philips Co.**, 750 S. Fulton Ave., Mt. Vernon, N. Y.

▲ For more details circle NED-156 F3 on enclosed inquiry slip ▲



ASBESTOS CANNOT CARBONIZE!

No motor is more durable than its windings. In U. S. Uniclosed Motors all windings are *asbestos-protected.* Motor life is tremendously increased because asbestos cannot carbonize and withstands highest temperatures.

UNICLOSED

Attractiveness of armored Uniclosed design adds eye appeal. ¼ to 250 h.p. Write for interesting descriptive Bulletin featuring Uniclosed Motors.

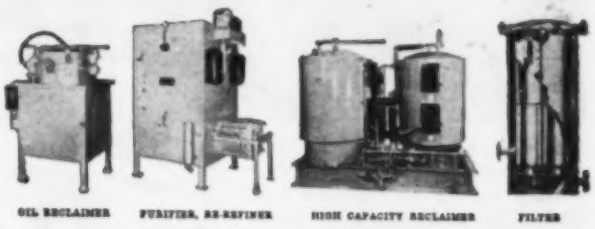
US MOTORS

U.S. ELECTRICAL MOTORS Inc.
LosAngeles54,Cal. Milford,Conn.

▲ For more details circle NED-157 F3 on enclosed inquiry slip ▲

HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT

Saves You MONEY, OIL and MACHINERY



A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL.

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated—must be discarded or conditioned for further use.

There is a HILCO to do This Job for You
Cleans Oil, Reduces Down Time, Increases Production!

★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and Recommendations.

OIL PURIFIER DIVISION
THE HILLIARD CORPORATION
40 W. 4th ST. • ELMIRA, N. Y.
IN CANADA — Upton-Bradeen-James, Ltd.
990 Bay St., Toronto, 3464 Park Ave., Montreal

▲ For more details circle NED-158 F3 on enclosed inquiry slip ▲

HERE'S PICTURE PROOF

Pliobond

GIVES STRONGER BONDS

PLIOBOND is Goodyear's all-purpose, all-joining adhesive that gives bonds of weight-defying strength.

The truck shown here weighs 5,000 lbs. It is being supported in mid-air by PLIOBOND. Only PLIOBOND applied with heat and pressure, was used to join the upper and lower halves of the steel coupling. And the coupling is only 4" in diameter—giving a bonding area of less than 13 sq. in.

Results like these are not unusual with PLIOBOND. Repeated tests have proved this fast-drying cement gives easily made, flexible bonds that resist a pull of up to 1500 lbs./sq. in.—that also resist water, oil, chemicals and aging.

Throughout industry, PLIOBOND is proving the quick, positive solution to slow, intricate assembly problems. Prove it in your plant, too. For full details, write to:

Goodyear, Chemical Division
Akron 16, Ohio

CHEMICAL GOODYEAR DIVISION

Use-Proved Products
CHEMIGUM • PLIOBOND • PLIOLITE • PLIOVIC • WING-CHEMICALS
The Finest Chemicals for Industry

Chemigum, Pliobond, Pliolite, Pliovic—
T.M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-159 F3 on enclosed inquiry slip ▲

FASTER GRINDING SPEED CHANGES with Strandflex

No pulleys to change! No belt slip! You select any of four operating speeds in seconds with simple control on gear drive housing. Two ranges available . . . 850-1800-3600-4500 or 1700-3600-7200-9000 RPM.

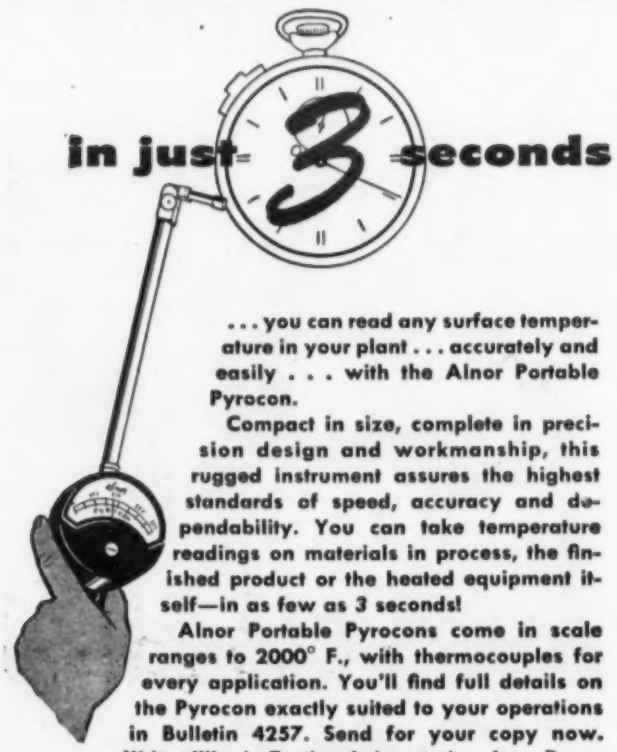
Use your Strandflex for grinding, filing, polishing, brushing or many other metal cutting operations merely by changing the tool. Ideal for close-in work or on heavy, bulky pieces because . . . *with Strandflex, the operator lifts only the tool, not the heavy motor. See your dealer for a demonstration.*

FREE DATA SHEET ON FINISHING STAINLESS WELDS tells how to remove surplus welds, how to polish and satin finish. Write for your copy today. Also ask for Catalog 531A illustrating, describing full line.

Strand FLEXIBLE SHAFT MACHINES

FRANKLIN BALMAR CORPORATION
N. A. STRAND DIVISION
Woodberry, Baltimore 11, Maryland
5001 North Wolcott, Chicago 40, Illinois

▲ For more details circle NED-160 F3 on enclosed inquiry slip ▲



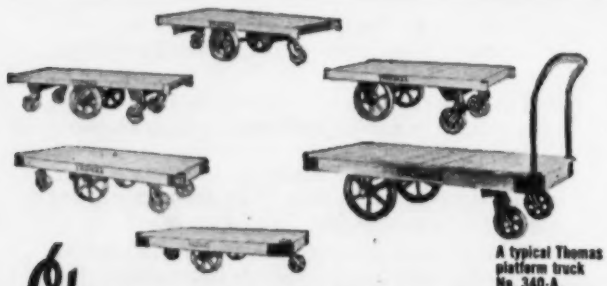
. . . you can read any surface temperature in your plant . . . accurately and easily . . . with the Alnor Portable Pyrocon.

Compact in size, complete in precision design and workmanship, this rugged instrument assures the highest standards of speed, accuracy and dependability. You can take temperature readings on materials in process, the finished product or the heated equipment itself—in as few as 3 seconds!

Alnor Portable Pyrocons come in scale ranges to 2000° F., with thermocouples for every application. You'll find full details on the Pyrocon exactly suited to your operations in Bulletin 4257. Send for your copy now. Write: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

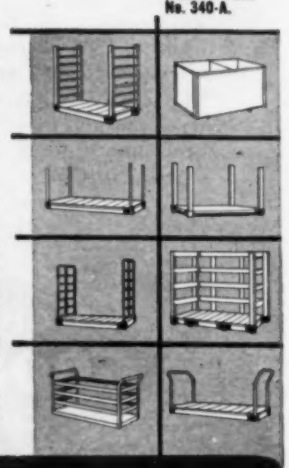
Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle NED-161 F3 on enclosed inquiry slip ▲



A typical Thomas platform truck No. 340-A.

Choose FROM SIX DIFFERENT TRUCK CHASSIS and 1000 superstructures



The Thomas "Job-Suited" plan enables you to choose quickly and accurately the most efficient truck for your particular freight or materials handling problem. FIRST—you choose any chassis or running gear that will *carry* your load. SECOND—you choose one of the 1000 superstructures to *hold* your load. PRESTO—you have a Thomas "Job-Suited" truck specially tailored to your needs! ANY CAPACITY, ANY SUPERSTRUCTURE, FOR ANY USE!

Write for Free Catalog giving "Job-Suited" particulars.
THOMAS TRUCK & CASTER CO.
329 Mississippi River, Keokuk, Iowa

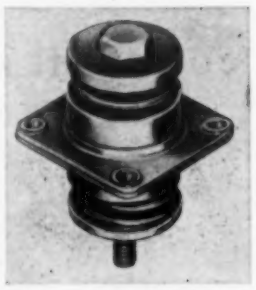
▲ For more details circle NED-162 F3 on enclosed inquiry slip ▲

TOOL HOLDERS available with rust-resistant finish

Greater rust-resistant qualities have been added to the line of Barnaby floating tool holders with the adoption of Du-Lite black finish as a standard manufacturing procedure. This finish also reduces friction and prevents galling and scoring. Tools are clamped by a set screw into the holder, either directly or using bushing which is furnished. Four sizes are available with from ½ to 1¼-in. hole diameter. Made by **Barnaby Mfg. Co.,** 72 Knowlton St., Bridgeport 8, Conn.

▲ For more details circle NED-163 F3 on enclosed inquiry slip ▲

VIBRATION ABSORBING MOUNT for shock and acceleration service



Developed to cope with extreme vibration and acceleration characteristics in guided missile applications, model 9302 double-acting all-metal Met-L-Flex mount is also adaptable to other uses. Features include nonlinear deflection characteristics, high damping, ability to withstand any condition of temperature and environment and load ranges of 1 to 7 lb per mount. It is suitable for isolation of vibration and shock for positive, negative and radial loads. Made by **Robinson Aviation, Inc.,** 48 Industrial Ave., Teterboro, N. J.

▲ For more details circle NED-164 F3 on enclosed inquiry slip ▲

AMMONIA-TYPE WHITEPRINTER duplicates any translucent original

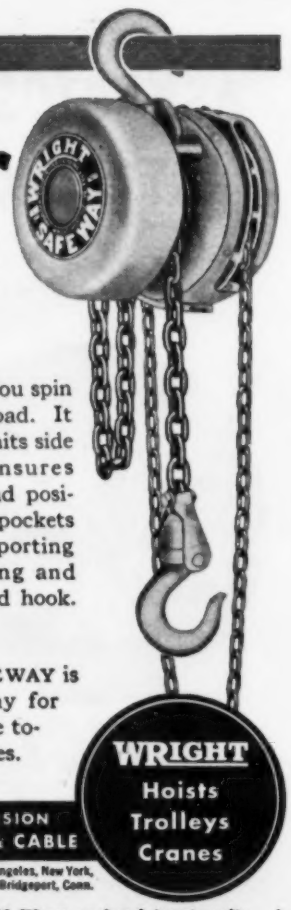
Any translucent original, whether drawn, typed, printed or photographed, can be duplicated at printing speeds from 6 to 14 fpm with the Speed-Master model S whiteprinter. A 2000-w high pressure Vicor jacketed glass lamp and the dry ammonia fume method of diazo reproduction are used. The machine develops fully at 8 fpm. Cut sheets or roll stock up to 42 in. wide are handled in any length, and the machine occupies 11 sq ft of floor space. Made by **Peck & Harvey,** Dept. NED, 5650 N. Western Ave., Chicago 45, Ill.

▲ For more details circle NED-165 F3 on enclosed inquiry slip ▲

an ACCO product

NEW.. IMPROVED!

• Here's the new, improved WRIGHT SAFEWAY Hoist . . . made in sizes from ½ to 4 tons.



Many Features

Hand chain guard lets you spin chain to raise or lower load. It speeds operation and permits side pull. Refined brake insures smooth, easy lowering and positive braking. Five formed pockets in sheaves. All load supporting parts are steel. Rocking and swiveling drop-forged load hook.

Priced Right

The WRIGHT SAFEWAY is priced right. It will pay for itself in time saved. Write today for literature and prices.

ACCO
WRIGHT HOIST DIVISION
AMERICAN CHAIN & CABLE
York, Pa., Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

WRIGHT Hoists Trolleys Cranes

▲ For more details circle NED-166 F3 on enclosed inquiry slip ▲

Put your packages on . . . ALVEY CONVEYORS

If your type of package is not shown above, write Alvey—describe your package handling problem—and it is practically certain that there is some previous experience that will accrue to your advantage. Write today—request an Alvey Engineer to call.

ALVEY CONVEYOR MFG. CO.
9259 OLIVE STREET ROAD ST. LOUIS 24, MISSOURI
BRANCH OFFICES IN PRINCIPAL CITIES

ALVEY

▲ For more details circle NED-167 F3 on enclosed inquiry slip ▲

The General Purpose Packings NO CHEMICALS CAN ATTACK

Chemiseal Extruded-Teflon Packings are universal packing materials because they are inert to all chemicals (except molten sodium and fluorine). Cannot be attacked by any material in process. Are serviceable from −110° F. to +500° F. Are tough, resilient, extremely anti-hesive allowing shafts and spindles to operate freely.

These ideal packings for field maintenance and emergency service—on valves, pumps, agitators, autoclaves, couplings or other stuffing box applications—are made in two types. No. 620-EG (graphite impregnated) and No. 620-EM (with mica).

Sold by the foot in continuous coils—they are available in ¼ in. cross section and up in increments of 1/16 in.

Ask your supply house or write for Catalog No. 620 EG and EM.

UNITED STATES GASKET COMPANY
FLUOROCARBON PRODUCTS DIVISION
CAMDEN 1, NEW JERSEY
Representatives in Principal Cities Throughout the World

▲ For more details circle NED-168 F3 on enclosed inquiry slip ▲

New! Porter-Cable 7-in. "CONTRACTOR'S SPECIAL"

Rips 8 feet in 7½ seconds!

In a recent series of ripping tests comparing leading 7-inch saws, Porter-Cable's new "Contractor's Special" turned in this amazing speed record . . .

18.6% faster than Saw A
41.7% faster than Saw B
51.6% faster than Saw C
38.7% faster than Saw D

Regardless of the depth of cut or type of wood used, the new "Contractor's Special" in every instance finished the cut far faster than any of the saws tested. For example, on ¾" Fir Plywood, the "Contractor's Special" averaged 7.5 seconds per 8-foot cut!

See the new 7-in. "Contractor's Special" at your Porter-Cable dealer's. Or write for complete specifications and performance data.

Porter-Cable
Quality Electric Tools

PORTER-CABLE MACHINE CO.
1406 N. Salina St., Syracuse 8, N. Y.
Manufacturers of SPEEDMATIC and GUILD Electric Tools

▲ For more details circle **NED-169 F3** on enclosed inquiry slip ▲

WICKWIRE ROPE SLINGS

in braided and single part construction

Braided slings made by Wickwire give you these advantages:

- Extreme flexibility
- Non-kinking properties
- Better conformation to irregular surfaces
- More even load distribution
- Will not take a permanent set

Write or call our nearest sales office for full details.

THE COLORADO FUEL AND IRON CORP.—Abilene (Tex.) • Denver
Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
THE CALIFORNIA WIRE CLOTH CORP.—Los Angeles • Oakland
Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga
Chicago • Detroit • Emlenton (Pa.) • Philadelphia • New York

WICKWIRE ROPE
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

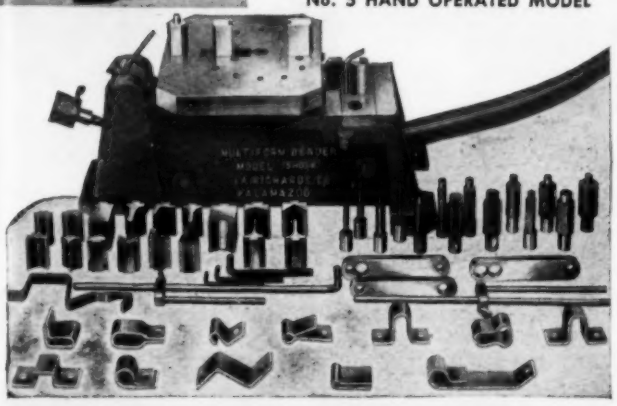
▲ For more details circle **NED-170 F3** on enclosed inquiry slip ▲

THE FAMOUS MULTIFORM **BENDER CUTTER**

Produces Without Special Tooling—Saves Die Costs Saves on Expensive Presses

This efficient machine is useful in all lines of trade, spring plants, radio and electrical equipment manufacturers. Complete with tooling, for bending material up to ⅛" x 1½".

No. 5 HAND OPERATED MODEL



AIR OPERATED MODELS AVAILABLE IN THIS AND LARGER SIZES

FIVE-IN-ONE-TOOL—ALSO LARGER MODELS
IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPE, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. MYRTLE & PITCHER STS. KALAMAZOO, MICHIGAN

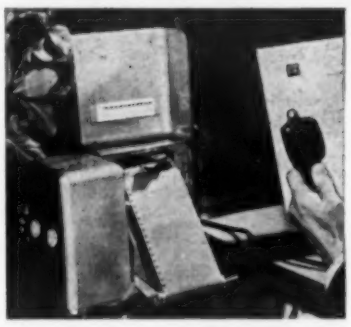
▲ For more details circle **NED-171 F3** on enclosed inquiry slip ▲

INSECT CONTROL LAMP
vapor action type is nontoxic

Enclosed areas up to 15,000 cu ft in size can be kept free of flying or crawling insects by model C Insect-O-Lite, a vapor action type lamp which operates from any 110-v ac or dc outlet. Unit uses Insectane crystals which last 30 to 60 days, depending on use. Vapor is clean, odorless and nontoxic to humans and food products. Chartreuse, flame, green and cherry are colors available in addition to standard gray. Crystal refills can be procured. Made by **Insect-O-Lite Co.**, Dept. D, 2904 Woodburn Ave., Cincinnati 6, O.

▲ For more details circle **NED-172 F3** on enclosed inquiry slip ▲

DICTATING MACHINE
incorporates transcribing unit



Utilizing the magnetic recording principle, Dupli-Voice dictating-transcribing unit achieves high fidelity by means of a flexible recording belt which can be used hundreds of times without reprocessing and is sufficiently compact to be slipped into an envelope for mailing. The unit weighs less than 12 lb, and requires a desk space of only 6 x 10 in. Each recording belt holds a 10-minute unit of dictation. Made by **Dupli-Voice Co.**, Dept. N, 224 W. Illinois St., Chicago 10, Ill.

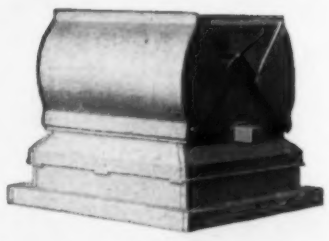
▲ For more details circle **NED-173 F3** on enclosed inquiry slip ▲

HERMETIC TERMINAL KIT
109 terminals in 12 sizes, types

This hermetic terminal kit consists of a 12-compartment Styron plastic box and 109 Strat-O-Seal terminals in the 12 most popular types and sizes used in the electronics industry. Terminals utilize Silicone and Teflon sealing and feature unlimited shelf life, resilience to shock, high dielectric strength, operation in temperature range of −100° F to 500° F and resistance to many chemicals. Tests indicate leakage of less than 1 cc of air in 31 years at pressure differential of one atmosphere. Kit is offered by **Strat-O-Seal Mfg. Co.**, Dept. NED, 3039 W. Fullerton Ave., Chicago 47, Ill.

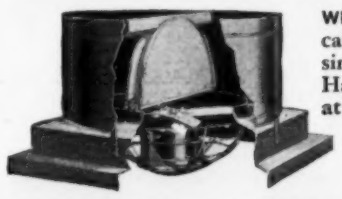
▲ For more details circle **NED-174 F3** on enclosed inquiry slip ▲

Swartwout "Straight Through" Ventilators
provide efficient economical spot ventilation



For situations where fast powerful exhaust is desired, the *straight-through* type roof ventilator throws out unwanted elements in a hurry.

JECT-O-VALVE is completely enclosed when not in operation, and a solenoid-actuated lock holds top sections secure when closed. Made in 5 sizes, 28 capacities. Write for Bulletin J-B.



WHIRLOUT provides economical, effective ventilation with simple, sturdy construction. Half-disc dampers are pivoted at the center of its circular opening. 10 sizes, wide capacity selection. Write for Bulletin WH-C.

See our catalog in Sweet's Engineering or Architectural Files

18511 Euclid Avenue, Cleveland 12, Ohio
The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

▲ For more details circle **NED-175 F3** on enclosed inquiry slip ▲

NOW M&T's hermetically sealed tin cans give you permanently all the advantages of MUREX Stainless Steel Electrodes. Moisture pick-up is eliminated — electrodes can be stored indefinitely without deterioration — shipping and handling damage, too, is prevented by packaging in six-container, specifically reinforced, double-cartons. *Inner* carton grips each container separately — *outer* carton furnishes extra overall protection. Get high quality MUREX Stainless Rods — in package engineered to keep them that way! Remember, no matter what composition of stainless you are welding — M&T's extensive MUREX line provides the particular electrode to give best results. Rods are available in three different coatings — lime, titania, AC-DC — to suit the welding condition.

★ STOPS MOISTURE PICK-UP
★ PERMITS INDEFINITE STORAGE
★ PREVENTS SHIPPING DAMAGE

NOW IN HERMETICALLY SEALED TIN CANS
MUREX
STAINLESS STEEL ELECTRODES

Check into your stainless needs now — then get full details from your nearest M&T representative or dealer.

Smaller diameter rods furnished in 5-lb. cans. Larger diameter in 10-lb. cans.

DETINNING
THERMIT WELDING
METALS and ALLOYS
ARC WELDING—Materials and Equipment
CHEMICALS and ANODES for Electroplating
CERAMIC OPACIFIERS
STABILIZERS for Plastics
TIN, ANTIMONY and ZIRCONIUM CHEMICALS

METAL & THERMIT CORPORATION
100 East 42nd Street • New York 17, N. Y.
MUREX ELECTRODES • ARC WELDERS • ACCESSORIES

▲ For more details circle **NED-176 F3** on enclosed inquiry slip ▲

ALL POWER TRUCKS LIFT, MOVE AND STACK—

but only Yale Gas Trucks have Fluid Drive

Smooth, trouble-free Fluid Drive gives you 3 to 8 times longer clutch life . . . saves costly, work-stopping clutch repair and too-frequent replacement.

- Less down time is just one of the big advantages of Yale-exclusive Fluid Drive. You get continuous, stall-free operation . . . smoother stops and starts to protect your load as well as your operator.
- Other Yale Gas Truck features . . . many of them exclusive . . . include rugged 65 HP Industrial Engine —safer, surer Automotive-type Brakes—Shockless Steering—Hypoid Gears.
- Yes, YALE trucks and attachments lead in money-saving efficiency . . . cuts costs as much as 75% in industries everywhere. And, every truck YALE makes . . . Gas, Electric, Diesel, LP-Gas or Gas-Electric . . . is subject to rigid Quality-Control checks at every stage of manufacture.

YALE
MATERIALS HANDLING EQUIPMENT
*Registered trade mark

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 376
Roosevelt Blvd. and Haldeman Ave., Phila. 15, Pa.

☐ Please send my free copy of *Picture Story of Yale Materials Handling Equipment.*

Company_____
Name_____ Title_____
Street_____ City_____ State_____

In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ontario, Canada

GAS, ELECTRIC, DIESEL LIFT TRUCKS • WORKSAVERS
HAND TRUCKS • HAND AND ELECTRIC HOISTS • PUL-LIFTS

▲ For more details circle **NED-177 F3** on enclosed inquiry slip ▲

SKINNER

Solenoid Valves

for air & hydraulic cylinders
fluid shut-off
diaphragm operated equipment
coolant control

"M" SERIES pilot-operated Skinner Valves have extremely fast action, and large capacity on air, inert gas and liquid applications. All internal metal parts are stainless steel or brass. Soft seals prevent leakage — operate in any position — rubber coated, nylon fabric diaphragm for long life — port size ½" or ⅜", orifice ⅜" — power consumption, 10 watts — continuous duty.

M2 is two-way, normally closed, 5 to 150 p. s. i., weight 3 lbs. M3 is three-way, normally closed, normally open, or directional flow, 20 to 150 p.s.i., weight 3¾ lbs.

Write for Bulletins No. 493 & 494

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
112 Edgewood Avenue, New Britain, Connecticut

▲ For more details circle NED-178 F3 on enclosed inquiry slip ▲

25% SAVED!

Packaging costs were reduced by as much as one-fourth when the Fafnir Bearing Co. adopted the Stanley Steel Strapping System.

In almost every type of plant—with almost every type of product—substantial savings are being made in packaging and handling by this cost-cutting system. Put it to work for *you*. Call in the Stanley Packaging and Shipping Engineer. He'll install the Stanley Steel Strapping System on a 30-day trial. There's no obligation. Just mail the coupon below. The Stanley Works, Steel Strapping Division, New Britain, Conn. Branch Offices or Representatives in 32 principal cities.

STANLEY Reg. U.S. Pat. Off. **STEEL STRAPPING SYSTEM***

***A MAN** thoroughly experienced in steel strapping applications—the Stanley Packaging and Shipping Engineer.

A METHOD adaptable to any requirement — the Stanley Steel Strapping System, with representatives in 32 principal cities.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

THE STANLEY WORKS, Steel Strapping Division
2092 Lake St., New Britain, Conn.

☐ Yes — the 30-day trial interests me. Have the Stanley Packaging and Shipping Engineer call.

☐ Send me complete information about the Stanley Steel Strapping System.

(Please write name and address in margin of page)

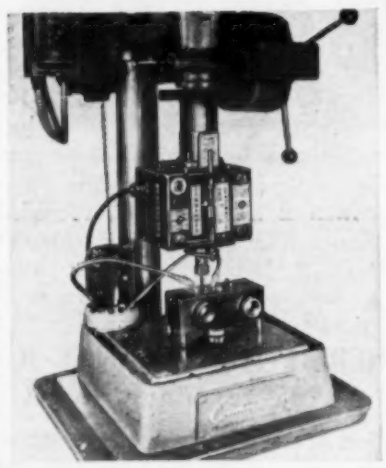
▲ For more details circle NED-179 F3 on enclosed inquiry slip ▲

GATEHOUSE "packaged" porcelain enamel unit

Glareproof and shatterproof sliding windows, electric heaters, intercommunication system, instant - starting fluorescent lights, Formica counter, asphalt tile flooring and drop seats for two attendants are built into this "packaged" porcelain enamel gatehouse illustrated. Of all steel construction, it has enamel surfaces both inside and out. Splash guards around each door protect attendants from splashing by cars during inclement weather. Installation requires merely bolting gatehouse in position and making power connections. Gatehouses are custom built to customer specification in any quantity, color or colors, size and with any accessory equipment. Made by **Erie Enameling Co.**, 1020 W. Twentieth St., Erie, Pa.

▲ For more details circle NED-180 F3 on enclosed inquiry slip ▲

TAPPING ATTACHMENT lead screw type for drill press



Lead-Matic electrically controlled automatic lead screw tapping attachment, designed to fit any drill press, has a range of No. 0 to ¾-in. Production tool has simple control on its face for easy selection of proper tapping action, either jog or cycle. A precision-ground lead screw pilots the tap into the work. Spring clutch drive mechanism provides automatic reversal of the tap. Hand, foot or mixture switches are available. Made by **Commander Mfg. Co.**, 4221 W. Kinzie St., Chicago 24, Ill.

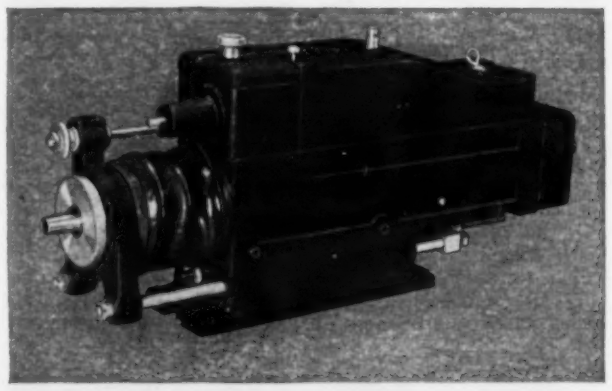
▲ For more details circle NED-181 F3 on enclosed inquiry slip ▲

Weight-Equalizing Sling

Caldwell Co.—The construction of the Adjust-A-Leg equalizing sling allows the load to adjust itself to proper center of gravity as it is lifted. As the load pressure increases, the weight frictionally locks the wire sling ropes and load is carried level. Data sheet describes operation and construction features, gives model specifications. Capacity ranges from ¾ to 28 tons.

▲ For more details circle NED-182 F3 on enclosed inquiry slip ▲

NEW DRILL UNIT HAS 3" STROKE
Hydraulic Feed—Electric Drive
Air Powered Rapid Advance



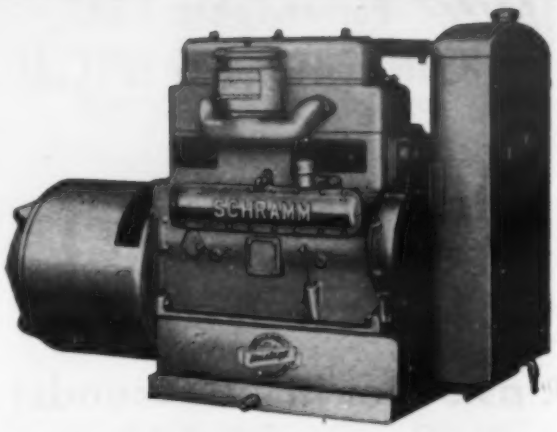
The Bellows-Locke Drill Unit is pulley driven. A 1750 RPM motor (optional) develops a spindle speed adjustable from 690 RPM to 4630 RPM with Bellows Speed Selector Pulley. Unit handles up to ¼" drill. Mounts in any position. Built-in directional air valve, electric and manual cycle controls.

WRITE FOR LITERATURE — DEPT. NED 653

629A

The Bellows Co.
Akron 9, Ohio

▲ For more details circle NED-183 F3 on enclosed inquiry slip ▲



Direct Motor Drive Compressor With Cooling Unit

- NO ELABORATE FOUNDATIONS WHEN INSTALLING THE MODERN SCHRAMM AIR COMPRESSORS.
- VIBRATIONLESS . . . EASY TO MOVE . . . EASY TO INSTALL.
- FURNISHED COMPLETE WITH ALL NECESSARY ACCESSORIES.
- SIZES FROM ½ TO 100 HORSEPOWER, DIRECT CONNECTED, V-BELT DRIVE AND TANK MOUNTED.

Write for Bulletin SSB-51A

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

▲ For more details circle NED-184 F3 on enclosed inquiry slip ▲

Tough Babies!

THEY DEFY ROUGH HANDLING!

LOWER COST Material Handling favors these rugged items! Mill-box above features steel compound Top rail (see inset) and Bulge corners, both extraordinary wear-resisting. Note slat reinforcing and non-jamming "nesting limits"

BOTH BUILT BY "BAL" BUILT WITH A CONSCIENCE FOR MATERIAL HANDLING

Nesting tote boxes at right, also built with handles and strongly reinforced all-fibre; hard, vulcanized for severe usage.

ALSO HARD VULCANIZED FIBRE TRUCKS, DRUMS, SPECIAL CASES.

• *Write for Catalog!*

WILLIAM **BAL** CORPORATION
11 Johnson St., Newark 5, N. J.

▲ For more details circle NED-185 F3 on enclosed inquiry slip ▲

SAFER ELECTRICAL INTERLOCKING ON ALL
EC&M Line Arc CONTACTORS

Two sets of double-break contacts—*isolated from each other*—no carry-over from one to the other by an arc.

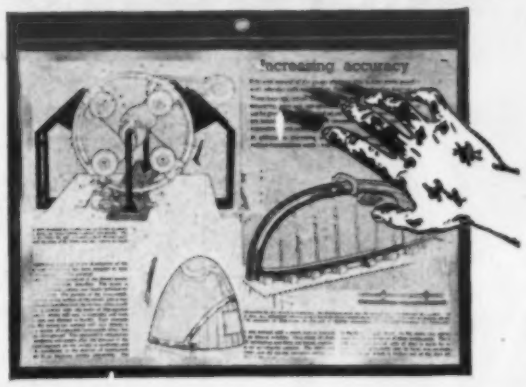
Coin-silver contacts are used on these new electrical interlocks. With two movable contact bridges (instead of one previously used) and *each isolated from the other*, normally-closed circuits *cannot* be *carried over* by an arc to *normally-open* circuits or vice versa. *Safer electrical interlocks*—a good reason for specifying EC&M Magnetic Control.

WRITE FOR BULLETIN 1145

THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79TH STREET • CLEVELAND 4, OHIO

▲ For more details circle NED-186 F3 on enclosed inquiry slip ▲

YOU CAN TRUST HIS EYES— *BUT NOT HIS GRIMY HANDS!*



A worker doesn't read a job ticket with his eyes alone. He also reads with his finger tips. And the little smudge he leaves behind is just enough to ball up your instructions—and leave a trail of bad blood, and bad mistakes.

So why take chances with a grease spot, when for a few pennies you can slide your work-sheet into a KLEER-VU plastic envelope. Then you are sure that every line and figure, dot and dash will stay sharp enough for honest eyes to read, and grimy hands to touch.

Ask for your FREE Kleer-Vu transparent envelope today. It's a trouble-saver, and a money-saver.

AMERICAN KLEER-VU PLASTICS, INC.
53-06 Grand Ave. Maspeth 78, N. Y.

For more details circle NED-187 F3 on enclosed inquiry slip

Bendix automotive Electric Fuel Pump

Unmatched for

LONG LIFE and RELIABILITY

Built-in Pressure Release . . . No flooding . . . Assures satisfactory **Re-Starts on Hottest Days**

Dependable as no Fuel Pump has ever been *under all operating conditions*

Performance Proven. Years of research, development, and rigorous tests have been made on this pump.

Longer Life—No Pressure Drop. No bearings or levers to wear; no diaphragm to fatigue.

Delivers More Gallons Per Hour. Can deliver more than 30 gallons output per hour. Two or more pumps can be manifolded.

Economical Operation. Low original cost and *long dependable life* make this fuel pump the best buy on the market.

Improves Low Temperature Starting. Tests prove that engines start at 10 to 15 degrees lower with the Bendix Fuel Pump.

Eliminates Vapor Lock. Assures a constant, dependable supply of fuel in the hottest weather.

Low Power Requirements. Only 7 watts at maximum fuel delivery.

Dependable Operation at 75° Below Zero. That's why the U. S. Army Ordnance Corps chose it to pump fuel to heaters in the extreme cold of the Arctic.

Easy to Install—Easy to Service—Tamper-Proof. Simple two-bolt mounting. No adjustments. Electrical system, sealed *in helium*, insures longest possible life.

Light Weight—Compact. A giant in output but a midget in weight—one pound, thirteen ounces.

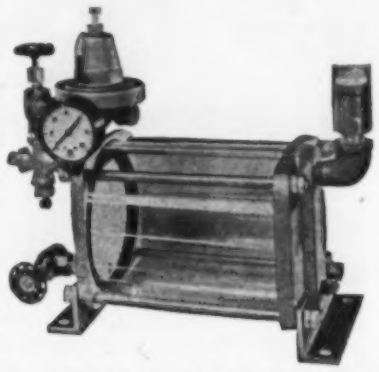
WRITE TO DEPT. J

Eclipse Machine Division
Elmira, New York • *Division of* Bendix Aviation Corporation

For more details circle NED-188 F3 on enclosed inquiry slip

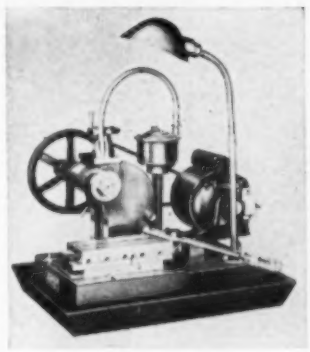
AIR OPERATED OIL DISPENSER applications include spray oiling

Where gravity feeding is not suitable, oil and other fluids can be fed at any desired rate by air pressure to elevated, distant and inaccessible points by this DHP dispenser. Practical for many applications including spray oiling, unit is designed to serve as central reservoir of single line, low pressure air operated oiling system, discharging regulated amount of oil by means of adjustable sight feed needle valves. Operation is on 80 psi line. Sizes with up to 2-gal Lucite reservoir for floor or wall mounting are furnished. A 0 to 60 psi air pressure gage and regulator is standard. Made by **Oil-Rite Corp.**, 2364 Waldo Blvd., Manitowoc, Wis.



For more details circle NED-189 F3 on enclosed inquiry slip

BENCH MILL for many light-duty operations



With base dimensions of only 11 x 18 in., bench mill is powered with a unit-mounted ⅓-hp motor and will make keyways and perform such other precision operations as slotting, slitting, squaring at different angles and spline cutting. Interchangeable balanced pulleys make possible speeds up to 7000 rpm. Spindle is designed with a 13/32-in. through hole and No. 7 B & S taper for mounting arbors, shanks and adaptors. Standard equipment includes motor-driven coolant pump, precision set-up block and single slide table. Many custom accessories are also available. Made by **Viking Industries,** Dept. J, 220 Montague St., Rockford, Ill.

For more details circle NED-190 F3 on enclosed inquiry slip

Large Hydraulic Pumps & Motors

Vickers Inc., Waterbury Tool Div. — Data book gives performance data and drawings on a heavy duty series of positive displacement axial piston hydraulic power pumps and motors. Units are suitable for open or closed circuits, and are available in ten sizes with capacities of 28 to 2300 gpm at rated speeds, and 50 to 400 hp at 2000 to 3000 psi. Applications include marine steering gear, extra large presses and machinery, rotary machine drives and testing equipment.

For more details circle NED-191 F3 on enclosed inquiry slip

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS

LIGHT AND EASY TO CARRY
Put it where you need it!

LITEWATE Roller Conveyor

Ideal for loading and unloading. Handles commodities up to 60 lbs. — moves bags, cases, hollow bottom, narrow, cleated and irregular packages. Available in 10 ft. and 5 ft. straight sections and 90° and 45° curves. Keep LITEWATE conveyors handy in your storage and shipping rooms — carry them in your trucks. Write for LITEWATE Conveyor Bulletin — address Dept. NED-63.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

For more details circle NED-192 F3 on enclosed inquiry slip

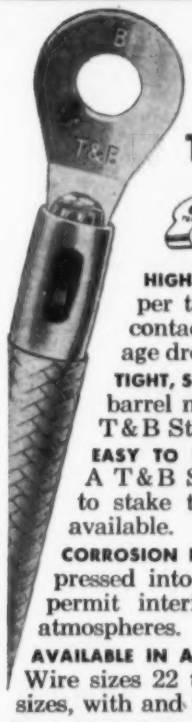
This Free Book tells you how to speed-up grinding and polishing 300%

Here's valuable information on how to grind and polish better—faster—cheaper ...how to eliminate herringbone patterns and swirl marks . . . how Nu-Matic Air-Inflated Grinders provide up to 3,000% greater abrasive contact area than hard-type wheels. Send today for Nu-Matic Book No. 6353.

N-104

NU-MATIC GRINDERS, INC.
8223 Carnegie Ave. • Cleveland 3, Ohio

For more details circle NED-193 F3 on enclosed inquiry slip



5 reasons why you should specify T&B Sta-kon® Terminals

HIGH CONDUCTIVITY... Pure electrolytic copper tongue. Long stake mark assures large contact area for low resistance and low voltage drop.

TIGHT, SURE CONNECTIONS... Serrated tongue and barrel never relax grip on cable. Once staked, T&B Sta-kon Terminals are on to stay.

EASY TO INSTALL... without flame, heat or flux. A T&B Shure-Stake hand tool is all you need to stake terminal to cable... bench tools also available.

CORROSION RESISTANT... Cable and barrel are compressed into a solid mass. There are no voids to permit interior attack from corrosive agents or atmospheres.

AVAILABLE IN A COMPLETE LINE... Including "specials". Wire sizes 22 to 4/0. Varied tongue styles and stud sizes, with and without insulation.

For information on the complete line of T & B Sta-kon terminals send for your FREE copy of T & B Bulletin #61 today.

T 321

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street, Elizabeth 1, New Jersey
THOMAS & BETTS LTD., MONTREAL, P. Q., CANADA

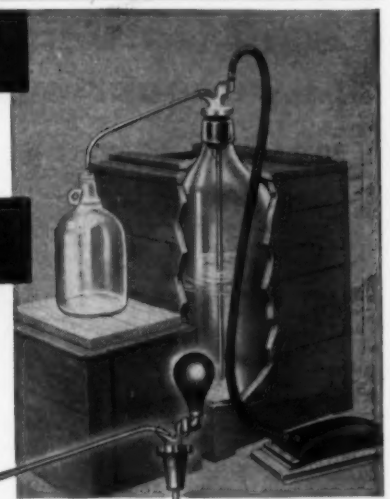
For more details circle NED-194 F3 on enclosed inquiry slip

PUMP CORROSIVE AND OTHER LIQUIDS

SAFE

FAST AND CONVENIENT

FOR CARBOYS, BARRELS AND DRUMS
BY HAND
Type A 2-3 gpm
BY FOOT
Type FH 3-4 gpm



A smooth flow of liquid starts and stops quickly. All parts in contact with liquid are corrosive resistant. No dangerous pressures. Relief valve.

FREE! Write for big 64 page illustrated catalog describing and pricing hundreds of safety products.

ORDER TODAY
ORDERS SHIPPED ON OPEN ACCOUNT

With lead tube for sulphuric, hydrochloric, hydrofluoric, etc.
HAND PUMP TYPE A $12.50
FOOT PUMP TYPE FH $14.00

With Saran flexible tube for nitric, phosphoric, acetic, etc.
HAND PUMP TYPE A $14.00
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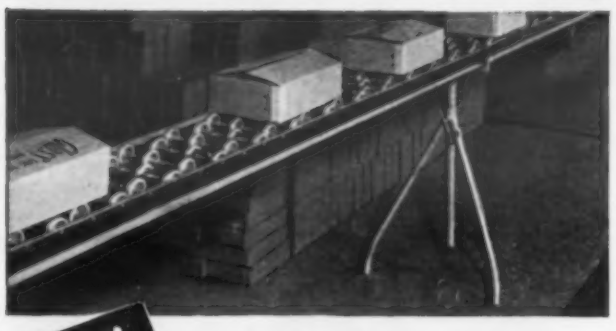
GENERAL SCIENTIFIC EQUIPMENT CO.
GENERAL SAFETY EQUIPMENT
2701 W. HUNTINGDON ST., PHILADELPHIA 32, PA.

A DEPENDABLE GUIDE TO SAFETY

SAFETY EQUIPMENT FOR EVERY HAZARD

For more details circle NED-195 F3 on enclosed inquiry slip



NEW

FARQUHAR Roll-Free GRAVITY CONVEYORS

for faster materials-handling!

SPEED your production and cut materials-handling costs with trouble-free, economical Farquhar ROLL-FREE gravity conveyors. ROLL-FREE conveyors are scientifically designed, not only to move boxes, crates and cartons smoothly and easily, but to perform year after year with a minimum of maintenance. This is no idle claim—our engineers will be glad to show you why, at no obligation. Write to the address shown below, telling us what you want to move.

OLIVER Farquhar CONVEYORS

FREE! "Owners Report"—a booklet of case histories describing money-saving Farquhar conveyor installations. Write. The OLIVER Corporation A. B. Farquhar Division Conveyor Dept E-04 York, Penna.

POWER-BELT & GRAVITY CONVEYORS

For more details circle NED-196 F3 on enclosed inquiry slip

There's no guess work with...

AIRETOOL TUBE EXPANSION CONTROL

Airetool makes tube rolling as easy as tuning your radio . . . the dial of the Airetool Tube Expansion Control is calibrated for tube size and material.

You can count on accurate, uniform tube joints every time . . . and with no fear of damage to the tube sheet. The all-electric control automatically shuts off the motor when proper torque is reached.

Reduce down time . . . cut tube failures with the Airetool Tube Expansion Control.

AIRETOOL

MFG. CO., SPRINGFIELD, OHIO

Branch Offices: New York, Philadelphia, Chicago, Tulsa, Baton Rouge, Houston, Hudson Hts. (N.J.)

Representatives in principal cities in U.S.A., Canada, Mexico, South America, England.

There's an AIRETOOL Tube Cleaner and Tube Expander for Every Type of Tubular Construction.

For more details circle NED-197 F3 on enclosed inquiry slip

Drill Hardened Steels without Annealing—

USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.

1380 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS *Write for information*

For more details circle NED-198 F3 on enclosed inquiry slip

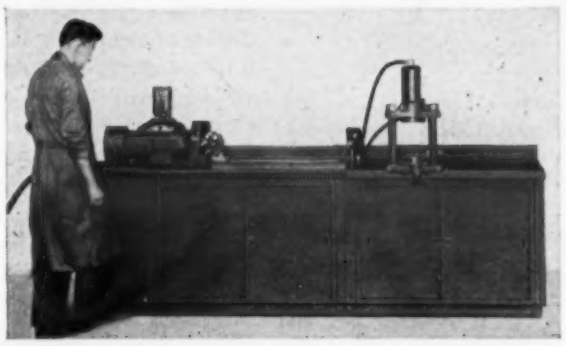
ANGLE IRON CUTTER
portable unit is hand powered

Hand-pump hydraulic action makes model A-20-B guillotine angle iron cutter portable and suitable for use in field erection work. It can be used anywhere without bolting down or mounting. Cuts are made with a straight clean shear and cause no deformation of the angle iron end. For production applications, electric hydraulic pumps are available. Capacity of the model A-20-B is 3 x 3 x ½-in., or 2½ x 2½ x 5/16. Units may be adapted for cutting special shapes such as channel or H-beam. Made by **Manco Mfg. Co.**, Washington St., Bradley, Ill.

For more details circle NED-199 F3 on enclosed inquiry slip

COUPLING EQUIPMENT
for make-up of hydraulic lines

Completely self-contained, the Champ hydraulic hose coupling shop includes cut-off, skinning, and hydraulic press sections, and will make-up single or double



braided hose from ¼ to 1¼-in. diameter in any desired length. The machine makes it possible for hydraulic suppliers to buy their own hose in bulk, cut it to the size demanded, and couple it in their own shops. The machine affords accuracy and reliability, performs a complete job in about 5 minutes. Made by **Champ Industries**, P. O. Box 6781, Philadelphia 32, Pa.

For more details circle NED-200 F3 on enclosed inquiry slip

Electronic Receiving Tubes

Radio Corp. of America, RCA Tube Dept.—24-page revised edition of quick-reference booklet "RCA Receiving Tubes for AM, FM and TV Broadcast" covers more than 495 receiving tubes, including 45 picture tubes. Quick and easy reference to characteristics and socket connections for each type is provided. Send 15 cents to Commercial Engineering, RCA Tube Dept., Harrison, N. J.

For more details circle NED-201 F3 on enclosed inquiry slip

Strong - Sturdy
TRUSCON INDUSTRIAL STEEL DOORS

These strong durable units are practically indestructible. They are particularly adaptable for use in basements, rear entrances, boiler rooms, fire exits and similar locations in factories, hotels, apartments, schools, churches, shops, warehouses, filling stations and stores. Swing Type Doors are furnished with heavily reinforced pressed steel door frames, prepared for Truscon standard door hardware.

Truscon Swing Type Steel Doors

Stiles and rails are made of pressed steel tubing with continuous lock seam. All corners are carefully fitted, substantially reinforced, and welded solidly. The large size of the 16 gauge tube, 1¾" x 5", provides approximately 14" of continuous welding around the perimeter—thus insuring permanent rigidity and complete elimination of sagging.

Swing doors may be equipped with either lever latch or cylinder lock hardware. Slide doors have hasp and staple hardware.

Truscon Slide Type Steel Doors

FREE BOOK!

Illustrated literature gives complete details and specifications on Truscon Industrial Steel Doors. Write for it.

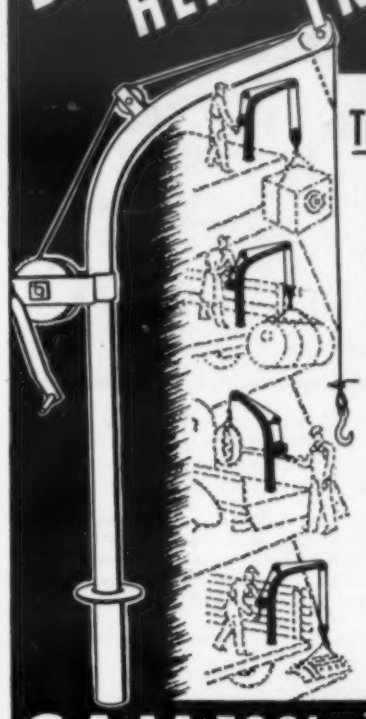
TRUSCON® STEEL DIVISION

REPUBLIC STEEL CORPORATION

1096 ALBERT STREET • YOUNGSTOWN 1, OHIO

For more details circle NED-202 F3 on enclosed inquiry slip

BLUE HERON TRUCK CRANE SAVES



Time Money Labor

ONE MAN can handle up to ONE TON—EASILY and SAFELY!—with a BLUE HERON TRUCK CRANE. Crane swivels through full circle; one man can lift from socket, leaving truck body clear.

Equip ALL company trucks with sockets. Then change cranes from truck to truck.

CHOOSE THE MODEL WHICH FITS YOUR REQUIREMENTS

Model O.C. 30A Cap. 500#
Model O.C. 30B Cap. 1000#
Model O.C. 30C Cap. 2000#

CAM TOOL CO., INC. 11 RANDWICK AVE. OAKLAND 11, CALIF.

For more details circle NED-203 F3 on enclosed inquiry slip

Here's a new gearmotor design with added compactness ...efficiency

This new Single Reduction Life-Line Type B Gearmotor features an overhung gearhead design which makes it especially adaptable to many coupled applications such as side-entry agitators.

Taper hardened gears, sturdy housing and anti-friction bearings are a few of the many other unit features . . . features assuring long, trouble-free performance.

These Life-Line Gearmotors are available in ratings from 1 to 30 hp, 780 to 420 rpm, AGMA classes I and II.

Here's a bulletin giving full information on the compactness and efficiency of these new Westinghouse Gearmotors. Sixteen methods of unit mounting are diagramed and explained. They show how Type B Gearmotors can be supplied to suit unusual conditions of space or location of driven equipment.

A copy of this valuable bulletin is yours for the asking. Just drop a line to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania, and ask for DB 3600-H-1.

J-07336

YOU CAN BE SURE...IF IT'S Westinghouse

For more details circle NED-204 F3 on enclosed inquiry slip

Specify

ESSEX EXTRA TEST TEFLON MAGNET WIRE

WIRE SX PRODUCTS

for Your Highest Temperature Applications

★ CAN WITHSTAND 250° C for short periods of time; or 200° C continuously.

★ SUPERIOR RESISTANCE to acids, solvents, chemicals and moisture.

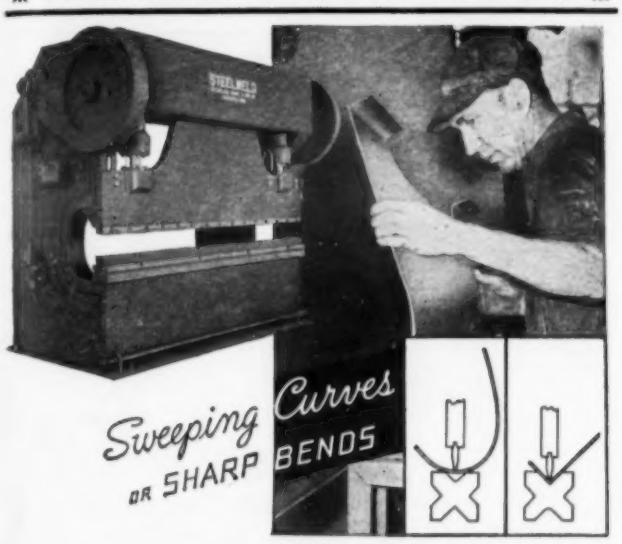
★ GOOD SPACE FACTOR, flexibility and abrasion resistance.

Teflon is the DuPont trademark for Polytetrafluoroethylene enamel.

ESSEX WIRE CORPORATION
FORT WAYNE 6, INDIANA

WAREHOUSES* AND SALES OFFICES: *Atlanta, Ga.; *Boston, Mass.; *Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; Dayton, Ohio; *Detroit, Mich.; Indianapolis, Ind.; *Kansas City, Mo.; *Los Angeles, Calif.; Milwaukee, Wis.; *Newark, N.J.; *Portland, Ore.; Upper Darby, Philadelphia, Pa.; *St. Louis, Mo.; *San Diego, Calif.; San Francisco, Calif.

▲ For more details circle NED-205 F3 on enclosed inquiry slip ▲



Sweeping curves or sharp bends are easily made on Steelweld Presses with standard 4-way bending dies, simply by adjusting the ram stroke. Blanking, drawing, corrugating and punching are also readily performed. A complete line of Steelwelds in capacities to 750 tons is available for plate to 20'0" long.

STEELWELD BENDING PRESSES CATALOG No. 2010

Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
6633 East 281st St., Wickliffe, O.

STEELWELD PRESSES

▲ For more details circle NED-206 F3 on enclosed inquiry slip ▲

NOW you can have METERED IDENTIFICATION for

formula, inventory and cost controls

STAINLESS STEEL -METER
Inside and Out

STOPS CORROSION PROBLEMS HANDLING FOODS, PHARMACEUTICALS, CHEMICALS, OTHER LIQUIDS

This new Rockwell Type 2BC Rotocycle meter is of all-stainless steel construction; corrosion-resistant, easy to clean. It provides accurate records of quantities of liquids handled which are so important in quality control, scheduling, cost accounting and tax analyses. Quantity Control Registers and Remote Registration Systems are available. Described in Bulletin OG-403. *Write Rockwell Mfg. Co., Dept. C9,* , Pittsburgh 8, Pa.

You Can RELY ON ROCKWELL INDUSTRIAL METERS

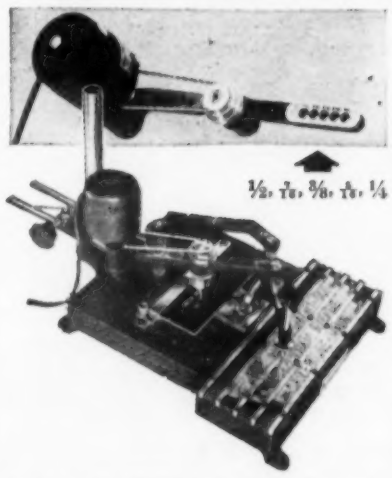
▲ For more details circle NED-207 F3 on enclosed inquiry slip ▲

GEAR PUMPS
for variety of hydraulic uses

Designed for such service as pressure lubricating, oil circulating, transfer and filtering systems and lift and replenishing systems, the LB Series of gear type hydraulic pumps will pump most liquids having a substantial oil base. Three capacities of 2.5, 3.5 and 4.5 gpm at 1800 rpm and 100 psi are available, and pressures or speeds in excess of these may be used satisfactorily in selected applications. The series includes two types of pumps, type LBP for face mounting or wet sump application, and type LBS which includes a shaft seal and is recommended for direct, gear or belt drives. Type LBS is also available as a 115/230-v motor-pump combination. An internal relief valve, adjustable for pressures between 50 and 200 psi, is optional. Made by **Webster Electric Co.**, 1900 Clark St., Racine, Wis.

▲ For more details circle NED-208 F3 on enclosed inquiry slip ▲

ENGRAVING MACHINE
has five reduction ratios



Five ratios of this engraving machine provide a range of cut letters in reductions of ½, 7/16, ⅜, 5/16 and ¼ of the master size type which is offered in various styles ranging from 3/16 to 2 in. high. Small steps in size variation make for machine versatility. Engraver is easily and accurately set by unskilled operators. Made by **Green Instrument Co.**, 375 Putnam Ave., Cambridge, Mass.

▲ For more details circle NED-209 F3 on enclosed inquiry slip ▲

56 Pages of Carbide Data

Vascoloy-Ramet Corp.—Twelve pages of technical information on carbide and its use, including such items as brazing data, chip breakers and chip control, turning stainless steel and the causes for tool failure, are featured in 56-page catalog VR-441. Complete information is also given on a line of nine standard tool grades with photos, detailed line drawings showing dimensions and angles, applications and complete ordering information for each item. Fifteen new items are included.

▲ For more details circle NED-210 F3 on enclosed inquiry slip ▲

FREE SAMPLE KIT PROVES BIG TIME SAVINGS!

SEMS-by-SHAKEPROOF

Tedious separate lock washer handling is completely eliminated. Specially designed SHAKEPROOF* Lock Washers are pre-assembled to screws —two parts are handled as one! Held on by the rolled thread, the washer can't drop off!

SEND FOR FREE TEST KIT NOW!

*T. M. REG. U. S. PAT. OFF.

SHAKEPROOF inc.
"Fastening Headquarters"
TRADE MARK
A DIVISION OF ILLINOIS TOOL WORKS
2501 North Keeler Avenue, Chicago 39, Illinois

▲ For more details circle NED-211 F3 on enclosed inquiry slip ▲

FAST SOLDERING OF SMALL CONNECTIONS

For fast, low-cost soldering of small joints, try this G-E 25-watt, 6-volt midget iron with long-life ironclad tip. Light as a pencil to reduce operator fatigue, this iron has a ¼-in. diameter tip* and shank for soldering where ordinary irons can't reach. The G-E midget does the job of larger irons —heater is built right into the tip to provide *maximum heat where you want it.*

FREE BULLETIN GEA-4519 contains full data on all G-E industrial soldering irons, from 25 to 1250 watts. Write Section 720-106, General Electric Co., Schenectady 5, N. Y.

*Also available with ⅛- and 3/16-in. tips.

GENERAL ELECTRIC

▲ For more details circle NED-212 F3 on enclosed inquiry slip ▲

with LIQUAMATTE wet blasting

Tools, dies, molds, engine parts, etc. requiring 1 to 6 hours to finish by hand methods are now finished in from 30 seconds to 10 minutes in a Liquamatte Wet Blasting Machine. It produces finishes mechanically at high speeds that previously have been impossible to achieve except by hand methods.

For example, at the Oling Tool Company a Liquamatte is saving an average of 50% on former time and labor requirements for surfacing tools prior to plating. On some items, such as drill bits, savings as high as 80% have been effected.

send for these bulletins today

these bulletins tell how

Save Time on Tools, Dies, Molds. Bulletin 43 — Save Time on Glass Molds Bulletin 53 — Save Time on Plastic Molds. Bulletin 63

American LIQUAMATTE
WHEELABRATOR & EQUIPMENT CORP. WET BLASTING
508 S. BYRKIT STREET, MISHAWAKA, INDIANA

▲ For more details circle NED-213 F3 on enclosed inquiry slip ▲

UNITED CARAVAN AXLES

feature

AUTOMOTIVE STEERING

Only CARAVAN axles assure dependable roadability on both highway and rough ground. These job-engineered axles are available in 2-wheel units and 4-wheel assemblies featuring automotive steering and controlled camber, tow-in and caster for positive trail at high speeds.

Stability for the heaviest loads is provided by massive center steering arm, extra-heavy center arm stop blocks and heavy-duty steering knuckle. Wide inside wheel turning angle assures maximum maneuverability and eliminates jack-knifing.

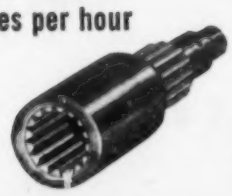
Write today for new Bulletin No. 53 for further information.

1124-UM

THE UNITED MANUFACTURING CO.
610 W. INTERSTATE STREET, BEDFORD, OHIO.

For more details circle NED-214 F3 on enclosed inquiry slip

PRODUCTION JUMPED
from 12 to 90
pieces per hour



SUNNEN HONING MACHINES
"Accuracy at Low Cost"

when Perkins Machine and Gear Co. switched to SUNNEN HONING

PROBLEM: To step up production of a splined bore, which required both correction of heat-treat distortion and final sizing.

MATERIAL: 4130 Steel • HOLE DIAMETER: .470" • HOLE LENGTH: 1.0"
HARDNESS: Rockwell "C" 55 • STOCK REMOVAL: .001" to .002"
FINISH: 32 RMS (approx.) • TOLERANCE: +.001", —.000"

SOLUTION: Sunnen Model MBH-1290D Honing Machine with a Y12 keyway type honing unit and honing stone, using mineral honing oil. Semi-skilled labor is used.

RESULTS: 90 parts per hour including gaging time—an increase of 650% by switching to Sunnen Honing (previous method was to hand grind and polish). Tolerances for straightness and roundness are easily held; surface finish is quite satisfactory. This shop finds Sunnen Honing the right answer for *many* jobs that require sizing and finishing of internal diameters.

You'll find Sunnen Honing Machines economical for job lots or long production runs . . . for everything from de-burring to micro-fitting. They are frequently the solution to production problems that cannot be handled by drilling, reaming, boring, lapping or grinding.

These machines generate geometrically perfect holes with fast stock removal . . . produce a guaranteed accuracy of .0001" or better and surface finish to 2 micro-inches RMS . . . have a diameter range of 1/8" to 2 5/8" . . . require no jigs or fixtures. Average installation costs less than $1,000.

TYPICAL HONED PARTS

Cast iron hydraulic cylinder — Steel worm gear — Bronze motor bearing

734-A

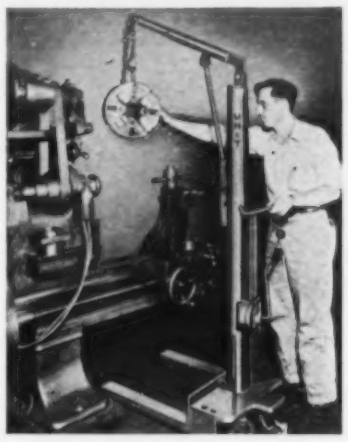
Sunnen Honing Machines may be *your* answer, too.

Send for FREE BOOKLET

SUNNEN PRODUCTS COMPANY
7965 Manchester Avenue, St. Louis 17, Missouri
Canadian Factory: Chatham, Ontario

For more details circle NED-215 F3 on enclosed inquiry slip

HYDRAULIC SHOP TRUCK
for boom, fork or platform lifting

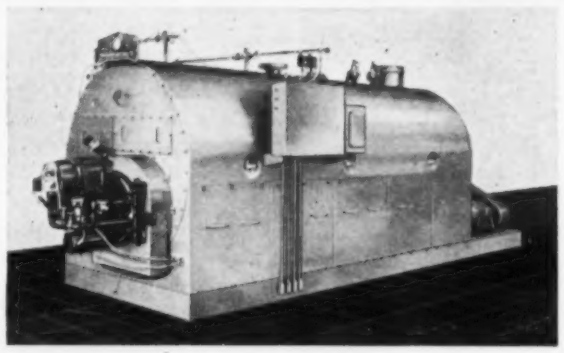


Any lifting job requiring a boom, forks or platform can be handled by this hydraulically operated 3-in-1 shop truck. Boom will lift to 8 ft, while forks which need only 3¼-in. clearance will lift a pallet to 55 in. Switching of one pin is all that is needed to put forks into operation. Loads up to 750 lb are eased up by one-hand operation of 5000-psi hydraulic system. Platform is locked over forks to handle nonpalletized loads. Base measures only 22½ x 33 in. and has foot-operated lock brake. Made by **Unit Mfg. Co.**, Dept. 124, 1229 Harmon Pl., Minneapolis 3, Minn.

For more details circle NED-216 F3 on enclosed inquiry slip

STEAM GENERATORS
up to 250-hp units are gas/oil fired

Off-center firing employed in improved line of Econo-Therm boilers which range in size up to 250 hp is reported to assure economy, safety and positive rotary



water circulation. Steaming is fast without surging or priming, and water line is maintained even when taking full head of steam from the boiler. Of modified Scotch internal furnace type, boiler meets ASME code requirements. Burners are available for gas, oil or gas-oil combination firing. Made by **Hapman-Dutton Co.**, Dutton Boilers Div., Dept. B-14, Kalamazoo, Mich.

For more details circle NED-217 F3 on enclosed inquiry slip

Joint Sealing Compound

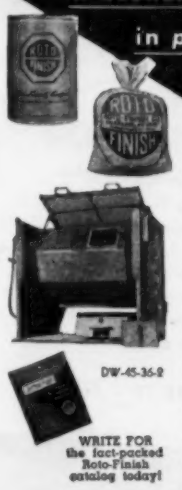
Chicago Gasket Co.—A lead-based sealing compound, Graycote is described in bulletin B7A. Four pages give features, operating and application. This compound is heat resistant, helps promote good gasket and threaded joint adhesion and permanence under pressure by filling minute gaps between metals.

For more details circle NED-218 F3 on enclosed inquiry slip

it's the finish that counts!

Roto-Finish CHIPS AND COMPOUNDS ARE FIRST
in economy — in quality — in performance

ROTO FINISH



Roto-Finish chips and compounds are carefully manufactured to fit your specific needs by the company that originated the Roto-Finish processes. They're specially designed to give the best results— faster — economically

SAVE MANHOURS AND MONEY by eliminating hand finishing. GIVE ABSOLUTE UNIFORMITY . . . in any quantity. MAINTAIN PRECISION TOLERANCES. CUT FINISHING costs as much as 80%. LOWER INITIAL AND MAINTENANCE costs.

THE ROTO-FINISH PROCESS puts grinding, deburring, descaling, polishing, britehoning and coloring on a MASS PRODUCTION BASIS. Put the experience and facilities of Roto-Finish to work for you on YOUR SPECIAL FINISHING PROBLEMS.

DW-45-36-2

WRITE FOR the fact-packed Roto-Finish catalog today!

Roto-Finish COMPANY
associated with The Sturgis Products Co.
3702 Milham Rd., Kalamazoo, Mich., P. O. Box 988, Ph. 3-5578
ORIGINATORS OF THE ROTO-FINISH PROCESS

For more details circle NED-219 F3 on enclosed inquiry slip

MYSTIK BRAND TAPES • SELF-STIK

Protecto-Mask

eliminates costly refinishing!

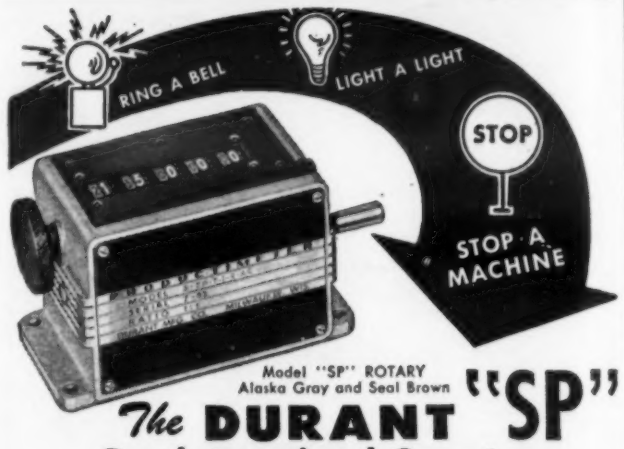
Highly polished surfaces on aluminum, stainless steel, plastics, glass . . . metals and materials of all kinds . . . *must* be protected from costly scratches, in fabrication, storage, shipment.

MYSTIK® Brand Protecto-Mask is *self-stik* . . . easily applied directly from the roll for a tough, scuff-resistant "skin." Adheres instantly, yet peels off easily without leaving residue. Can also be used for layout and diagramming.

WRITE TODAY for information and samples. Mystik Adhesive Products, 2657 North Kildare Ave., Chicago 39.

Trademark Mystik Registered ©Mystik Adhesive Products, 1953

For more details circle NED-220 F3 on enclosed inquiry slip



Model "SP" ROTARY
Alaska Gray and Seal Brown

The DURANT "SP"
Predetermined Counter
(CLOSES SWITCH AT END OF PRE-SET COUNT)

PREVENTS COSTLY OVERRUNS

This SMALL, COMPACT Productimeter has hundreds of applications in all phases of industrial production. Make exact production runs to any predetermined count you set.

Extremely rugged, fast and accurate the "SP" Productimeter will eliminate wasteful over- or under-runs. It will turn on a light, ring a bell or stop the machine. Available in ROTARY or STROKE models.

Send for Catalog No. 501

DURANT MANUFACTURING CO.
1922 N. Buffum St., Milwaukee 1, Wis. — 122 Orange St., Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

For more details circle NED-221 F3 on enclosed inquiry slip

METZGAR CONVEYORS GRAVITY POWER

Warehouse installation of wheel and roller straight sections and curve feeding from three directions through FLEX-A-SWITCH onto portable belt "POWER HELPER" for delivery to higher level loading floor. Metzgar conveyors are ideal for production line and warehouse handling.

• SALES OFFICES IN PRINCIPAL CITIES

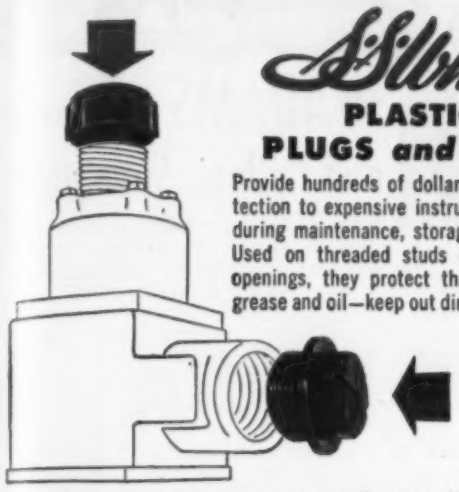
METZGAR CO.

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

416 Douglas, N.W.
GRAND RAPIDS 4, MICH.

For more details circle NED-222 F3 on enclosed inquiry slip

SAFEGUARD valuable parts from damage at LOW COST



S.S.White

PLASTIC PLUGS and CAPS

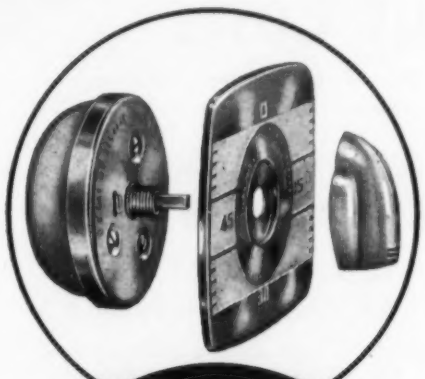
Provide hundreds of dollars worth of protection to expensive instruments or parts during maintenance, storage or shipment. Used on threaded studs or in threaded openings, they protect threads—seal in grease and oil—keep out dirt and moisture.

S.S.White plastic plugs and caps are available in many styles and sizes for N.P.T. standard, machine screw or metric threads. Order a supply today—their low cost makes them a profitable investment.

FOR PRICES AND SIZES, SEND FOR BULLETIN P-5203.

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. 7P, 10 East 40th St. NEW YORK 16, N. Y.
WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

For more details circle NED-223 F3 on enclosed inquiry slip



MARK-TIME "2000" Bell Timer

a favorite for dependability & economy!

Hundreds of the country's leading manufacturers of ranges, washing machines and similar appliances have standardized on "2000"... because no other bell timer gives such rugged dependability at so little cost!

"2000" is perfect for any device or appliance where a clear, resonant bell signal is required at the end of a pre-set, measured time interval.

Durability is built into "2000"... its simple, trouble-proof operation has earned its outstanding popularity.

Available with a wide variety of modern dials and knobs. Write today for full details and prices.

SPECIFICATIONS

Standard timing ranges from 60 seconds to 5 hours. Normally supplied with center stud mounting. Other mountings available on request. May be supplied with winding shafts of various types.

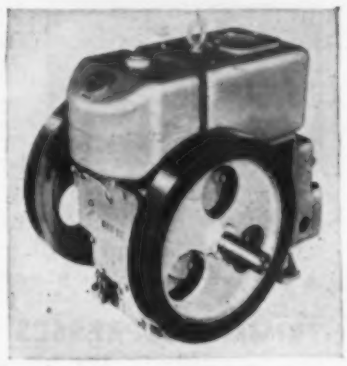
Manufactured and sold in Canada by SPERRY GYROSCOPE OTTAWA, Limited 3 Hamilton St., Ottawa, Ontario, Canada

MARK-TIME

M. H. RHODES, INC.
HARTFORD, CONNECTICUT

For more details circle NED-224 F3 on enclosed inquiry slip

INDUSTRIAL ENGINE for gasoline, kerosene or gas fuels



Simple operation and easy maintenance are the features of the model 98 four-cycle carburetor-type engine which is suitable for intermittent or continuous operation using gasoline, kerosene and gas fuels. It can well be applied to portable applications such as concrete mixers, compressors and welding generator sets; or for stationary service with water pumps, mills, and electrical generator plants. It develops from 5 to 10 hp and has a speed range from 500 to 1200 rpm. It is water cooled either by hopper, tank, or condenser cooling systems. With hopper, cooling dimensions are 28 5/16 in. high, 26½ in. wide and 33 7/16 in. long. Made by **United States Steel Corp.**, Witte Engine Works, Oil Well Supply Div., 1602 Oakland Ave., Kansas City 26, Mo.

For more details circle NED-225 F3 on enclosed inquiry slip

ULTRASONIC PROBE "feels" flowability for control of industrial fluid processes

Developed to aid in precision quality control, Ultra-Visicon ultrasonic probe type instrument streamlines processes involving fluid raw materials. Device instantaneously and continuously measures and controls the viscosity or flowability of liquids by means of ultrahigh frequency sound waves.

Containing no moving parts, instrument consists of a small sensing element or probe that is immersed in liquid under test or processing, and an electronic computer. Probe is designed for permanent installation in pipeline, kettle or fractionating tower. With the computer connected to a recorder, it produces a continuous curve of viscosity. It can operate in high-pressure or vacuum containers and in a heat range of −200 to 650° F.

Instrument is applicable to industries processing petroleum products, food, chemicals, plastics and hundreds of other materials. Ultra-Visicon is now made by **Bendix Aviation Corp.**, Cincinnati Div., 203 W. Third St., Cincinnati 2, O.

For more details circle NED-226 F3 on enclosed inquiry slip

Want Temperature Controls That Save Money, Increase Performance: USE

KLIXON Thermo-Snap CONTROLS

Actuated by the scientifically calibrated thermostatic disc, Klixon disc-operated controls "snap" the circuit open with a quick, clean break — and "snap" it closed again to a solid make no matter how often they operate. Because Spencer Controls have no complicated relays, toggles, magnets or other fussy parts, their accurate performance is unaffected by shock, vibration, motion or altitude regardless of the position of mounting.

What's your temperature control problem ... low and high limit controls, fuel delay switches, tube and rectifier cooling, fan switches, temperature control ... Klixon Thermo-Snap Controls are meeting the requirements for these and other applications daily.

Klixon Thermo-Snap Controls are available in many hermetically sealed and open types in a wide variety of operating temperature ranges.

Write for their help or further information.

KLIXON

SPENCER THERMOSTAT
Division of Metals & Controls Corp.
1906 FOREST STREET, ATTLEBORO, MASS.

For more details circle NED-227 F3 on enclosed inquiry slip

WHEN BINS BECOME BOTTLENECKS... YOU NEED SPO AIR VIBRATORS

Don't let arching, bridging and clogging bottleneck your production . . . keep materials flowing from bins, hoppers and chutes with SPO air vibrators. These low-cost units deliver powerful hammer-like blows which eliminate jamming of powdered and granular materials.

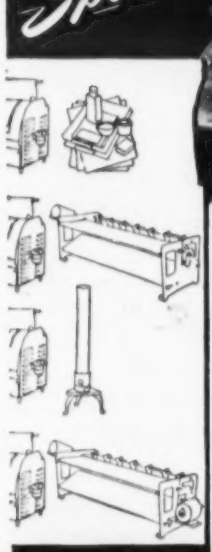
Exclusive feature of SPO air vibrators is a special corrosion-proof bronze alloy cylinder liner which assures full-power start, high-speed operation, low air consumption and maximum service life. 1232-S1

Write today for Bulletin 50.

SPO INCORPORATED
6475 GRAND DIVISION AVE. • CLEVELAND 25, OHIO

For more details circle NED-228 F3 on enclosed inquiry slip

AMAZING! the Time and Money Saved WITH Spee-Dee WHITEPRINT OUTFITS



Make Exact Duplicates in as little as One Minute at less than 2c sq. ft.

Inexpensive and simplest of all print making equipment! Thousands in daily use. Enables anyone to make accurate, positive whiteprints from translucent originals. Saves up to 80% of commercial blueprint costs—quickly pays for itself! Makes photocopies, too. Just plug in. Uses diazo (moist or ammonia dry) process. Complete portable *Spee-Dee* outfits in 12" x 18", 18" x 24" and 24" x 36" models. Prices start at $55.00. Also a full line of 42" width capacity volume production whiteprinters at moderate prices.

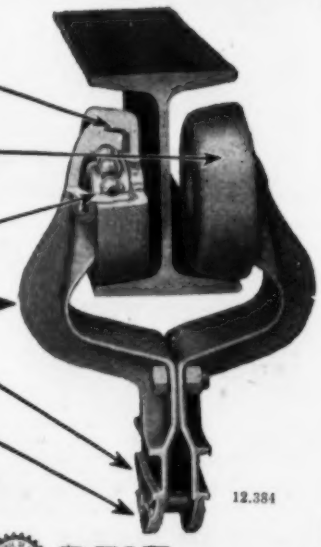
10 DAY FREE TRIAL

Send today for Free Spee-Dee Brochure

PECK & HARVEY
Mfrs. of Whiteprint, Blueprint & Photocopy Equipment
5638 NORTH WESTERN AVE., CHICAGO 45, ILLINOIS

For more details circle NED-229 F3 on enclosed inquiry slip

Important points to look for when you buy trolleys You get them all when you buy Link-Belt



Effective sealing of wheel and bracket keeps out dust and dirt.

Wheels are drop-forged, internally machined to extremely close tolerances.

Raceways are induction hardened. High load capacity is based on entire assembly — not just on bearing.

Rugged, one-piece bracket and clevis are drop-forged and heat-treated—fewer parts to maintain.

Trolley can replace other makes without disturbing chain's operating position.

Clevis pins are locked in bracket, cannot rotate. Bracket wear is minimized.

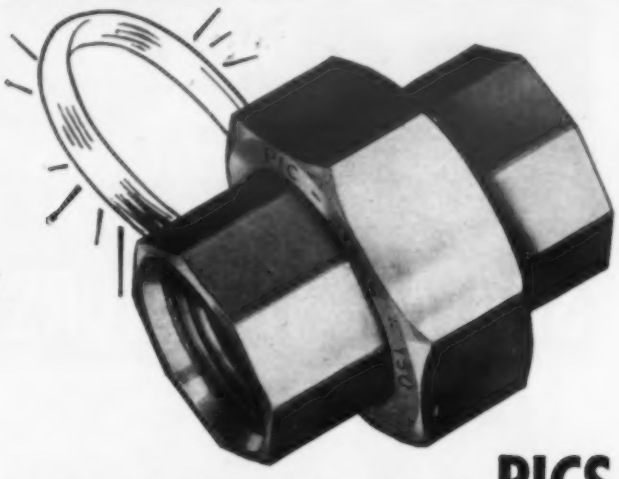
Write for Folder 2241-B.

12.384

LINK-BELT

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8.

For more details circle NED-230 F3 on enclosed inquiry slip



WED YOUR NEW EQUIPMENT TO **PICS**

for a Happy Union!

PIC STEEL UNIONS blend perfectly with appliances because they're bright, gleaming, good looking. Functionally they're strong—ends are heavy steel pipe coupling stock, uniformly flat-sided for rapid installation with open end wrenches. Special wedge type bronze seat gives tight, safe closure. 100% zinc plated (including threads) to protect against rust. Pics are priced right — less than a galvanized, no more than a black malleable union!

For 150 lb. service — write for FREE Samples
DART UNION COMPANY
132 THURBERS AVENUE, PROVIDENCE 5, R. I.

▲ For more details circle NED-231 F3 on enclosed inquiry slip ▲

IT'S LIKED MORE BECAUSE IT DOES MORE

LESTO

Electric

HAND SAW

Cuts inside holes without drilling a starting hole.

RIP
SCROLL
BAND
JIG
CROSSCUT
COPING
KEYHOLE

Extremely fast for soft and hard wood, soft metal, bone, plastics, hard rubber, cement sheet, pressed wood, etc.

Cuts 2" Wood Beams

Write for Literature
Sold and Serviced in Principal Cities Throughout U.S.A.

VICTOR J. KRIEG, Inc.
Exclusive Importer
DEPT. C, 611 Broadway, New York 12, N. Y. GRamercy 7-5757
Some Sales Territories Available

▲ For more details circle NED-232 F3 on enclosed inquiry slip ▲

You get ALL these features when you buy PET DRILLS!

If you want the best, take an extra look at the PET Superduty Drill above! Here's a continuous-duty drill—built to *work* right and *handle* right.

And, the price is right, too! All features shown are *standard* in PET Superduty Drills—at a *standard drill price!* Complete line of 54 ¼", ⅜" and ½" models gives you wide selection—in pistol or saw-type grip. Use coupon below to get complete facts!

PORTABLE ELECTRIC TOOLS, INC., 320 W. 83rd St., Dept. ND63, Chicago
In Canada: Portable Electric Tools, Ltd., 452 Birchmount Rd., Toronto

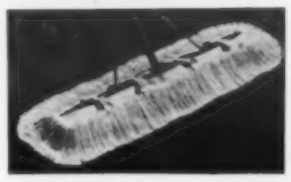
MAIL COUPON FOR FREE BULLETIN

Please send me free PET Superduty Catalog and name of nearest distributor.

*Name*_____ *Title*_____
*Company*_____
*Address*_____
*City*_____ *State*_____

▲ For more details circle NED-233 F3 on enclosed inquiry slip ▲

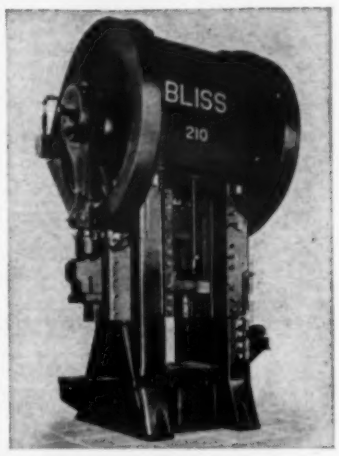
DUST MOP
available up to 5-ft wide



Manufactured in widths from 1 to 5 ft, the Big X dust mop is made of lintless white cotton twine. The larger sizes are ideal for large floor areas. Mop has a hardwood block and heavy preshrunk canvas backing. Made by **American Standard Mfg. Co.,** 2516 S. Green St., Chicago 8, Ill.

▲ For more details circle NED-234 F3 on enclosed inquiry slip ▲

TRIMMING PRESSES
operates at 35 strokes/minute



An air counterbalance concealed in the uprights, automatic lubrication and fast-acting friction-type clutch are features of line of No. 210 trimming presses which operate at 35 strokes per minute with ram capacity of 440 tons. Single geared units in the line have twin herringbone driving gears running in oil and equipped with rim-type, oil tight gear guards. Friction clamp slip-type knockout prevents breakage of dies by allowing friction clamp to slide on knockout bar whenever bar has not been adjusted to proper height. Slide has 16-in. stroke with motorized adjustment of 6 in., and trimming attachment has 10-in. stroke with 4-in. adjustment. Made by **E. W. Bliss Co.,** 13-76 Raff Rd. S.W., Canton, O.

▲ For more details circle NED-235 F3 on enclosed inquiry slip ▲

REGULATED POWER SUPPLY
low voltage, high current type

Good regulation, low ripple and low output impedance are features of model 3200 low voltage, high current direct current power supply. Low voltage supply is continuously variable from 1 to 13 v and delivers from 0 to 10 amp continuous duty. In this voltage range the output variation is less than ½-per cent for both line fluctuation from 105-125 v and load variation from minimum to maximum current. Ripple voltage is less than 10 mv. Made by **Kepco Laboratories, Inc.,** 131-37 Sanford Ave., Flushing 55, N. Y.

▲ For more details circle NED-236 F3 on enclosed inquiry slip ▲

Also standard metallic impact types . . . wide selection of piston diameter sizes.

LITERATURE ON REQUEST

THE CLEVELAND VIBRATOR COMPANY
2736 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-237 F3 on enclosed inquiry slip ▲

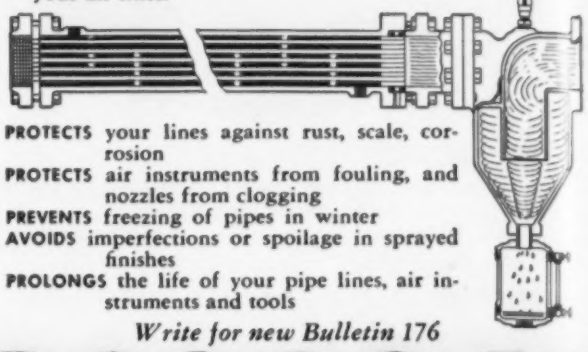
You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with **ADAMS Aftercooler and Cyclone Separator**

● Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

▲ For more details circle NED-238 F3 on enclosed inquiry slip ▲

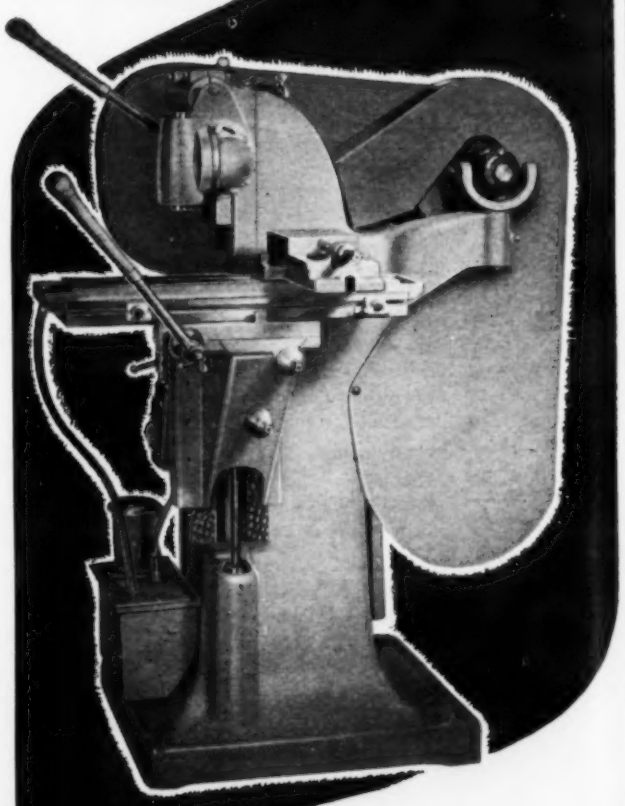
Cut Costs

on Tool Room, Development and Mass Production Milling with

U. S. No. 1

HORIZONTAL MILLING MACHINES

Time-proved, shop-proved, profit-proved "U. S. No. 1" heavy duty, hand-feed milling machines are outstandingly America's No. 1 Machine Tool value. Easily adapted to production with automatic devices.



SEND FOR DATA AND SUGGESTIONS

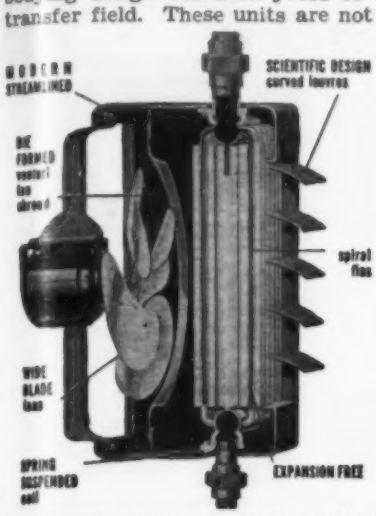
Suggestions as to how a U. S. No. 1 Milling Machine can cut costs on your particular production needs, as well as complete data on the basic machine and attachments, gladly furnished on request.

THE U. S.-BURKE MACHINE TOOL DIV.
Brotherton Road 2,
Cincinnati 27, Ohio

▲ For more details circle NED-239 F3 on enclosed inquiry slip ▲

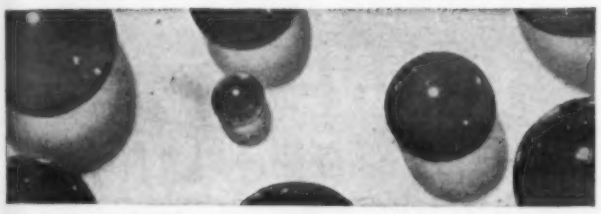
UNIT HEATER . . sets new standard of quietness and heating efficiency

McCord Unit Heaters are a time proven product embodying design based on years of experience in the heat transfer field. These units are not only rugged in design and guaranteed for use on #150 p.s.i. steam pressure but are made attractive in appearance. Two outstanding features appeal to maintenance engineers — we use standard motors with standard bases which quickly permits the use of replacement motors should a motor fail in service—the heating element is made of individual spiral fin tubes which are free to expand independently without putting a strain on the brazed joints. The entire heating unit is spring suspended and floats free in the casing, eliminating rigid connections. Improved type fan blades deliver large volumes of air with minimum air noise and vibration which makes these units suitable for office and store use. A complete line of vertical projection type unit heaters and blast coils are also available. Catalog on request or write for folder. "Instructions for Maintenance of Unit Heaters." **McCord Corporation,** Detroit, Mich. *(Advt.)*



▲ For more details circle **NED-240 F3** on enclosed inquiry slip ▲

NOW—Precision Balls of Synthetic Sapphire



These balls of synthetic sapphire, polished to within 20 micro-inches of sphericity, are resistant to wear, heat, and corrosion. In many applications they need not be lubricated.

Available in 1mm, 1/16 inch, ⅛ inch, and ¼ inch sizes, and in three surface finishes.

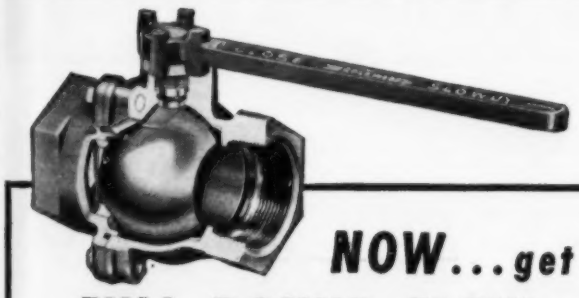
PROPERTIES

Coefficient of Friction	0.140
Hardness (Knoop)	1525-2000
Dielectric Constant	7.5-10
Modulus of Rigidity	21.5-27.5 x 10^6psi
Thermal Coefficient of Expansion at 50°C (per°C x 10^6)	5.0-6.7
Chemical Resistance	Unaffected by acids, dilute alkali.

Call or write any LINDE office for information on these balls or the other forms of synthetic sapphire.

LINDE AIR PRODUCTS COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd St. UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

▲ For more details circle **NED-241 F3** on enclosed inquiry slip ▲



NOW...get FULL ROUND FLOW *in a quarter turn*

Designed to step up valve performance in every detail of operation, Rockwood Ball Valves are making good in a wide range of services. Chief reason is the chrome-plated floating bronze ball that assures a full *round* flow . . . enables quick opening and closing . . . resists wear longer . . . stays leakproof.

Ideal for handling water, air, carbon dioxide, nitrogen and other gases, paraffin and asphalt base petroleums, alcohol, paper fluids and many other types of fluids and gases. Approved by Underwriters' Laboratories, Inc. For further details, send for free Bulletin V-4.
Rockwood Sprinkler Company, 44 Harlow Street, Worcester 5, Mass.
Distributors in all principal cities.

ROCKWOOD

ROCKWOOD FULL-FLOW BALL VALVES
THE FLOW IS AS ROUND AS THE PIPE ITSELF

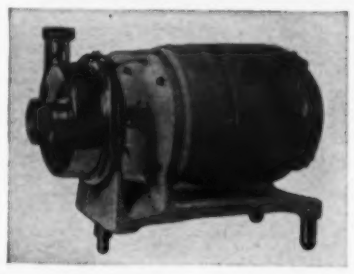
▲ For more details circle **NED-242 F3** on enclosed inquiry slip ▲

FLUSH-HANDLE LOCK applies to any door size or type

For automotive or industrial use, this door lock has a handle which folds into a recess in the lock. It is adaptable for flush-type, curved, T and offset handles, and can be applied to small and medium sized doors. Space saving, attractive unique design and safety are the principal features. Made by **A. L. Hansen Mfg. Co.,** 5164 Ravenswood Ave., Chicago 40, Ill.

▲ For more details circle **NED-243 F3** on enclosed inquiry slip ▲

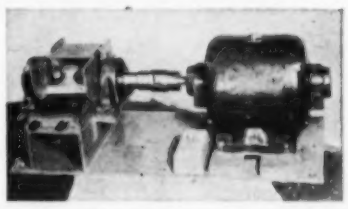
CENTRIFUGAL PUMPS supplied in various ratings



Line of corrosion resistant sanitary and industrial centrifugal pumps is comprised of nonclogging units with special seals for practically any requirement. Sizes and capacities up to 1250 gpm and up to 250 ft of head at 0 gpm are offered. Pump King unimount series illustrated is designed for operation at 1800 and 3600 rpm. Pumps have screw type impeller, inert carbon seals and Tri-Clamp casing construction for easy disassembly. Made by **Tri-Clover Machine Co.,** 2910 60th St., Kenosha, Wis.

▲ For more details circle **NED-244 F3** on enclosed inquiry slip ▲

EDGE TRIMMING CUTTER used with paper slitting machine



Operating in conjunction with paper slitting machines, this small motor driven cutter cuts edge trims into scrap lengths suitable for removal by air conveyors or similar means of disposal. Cutters are usually placed on both sides of slitter and the two units driven by a single motor, but each cutter can have its own motor. Speed of cutter is fixed, so that length of trim cut is determined by the slitter speed. *(Editor's Note: This item appeared on page 26 of the April NED with an erroneous headline which stated that the cutter was a metal trim cutter. The company does not make metal trim cutters—only paper as described above. Our apologies to readers and manufacturer alike.)* Trim cutters for paper slitters made by **Taylor, Stiles & Co.,** 7 Bridge St., Riegelsville, N. J.

▲ For more details circle **NED-245 F3** on enclosed inquiry slip ▲

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO SAFETY PARTS LIFTER

Speeds up the job on parts that are difficult to handle with the fingers. Practical for flat or curved surfaces, damp or oily parts. Instantly affixed or released at the option of the operator. Cup diameter 2½", length over all 15".

WRITE FOR BULLETIN NO. 51

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

▲ For more details circle **NED-246 F3** on enclosed inquiry slip ▲

DEBURRING *Made Easy!*

WRITE FOR ABRASIVE BELT GRINDER-POLISHER CATALOG

Hammond Machinery Builders INC.
1623 DOUGLAS AVENUE • KALAMAZOO MICHIGAN

▲ For more details circle **NED-247 F3** on enclosed inquiry slip ▲

New Hunter Industrial Fan

POWERFUL, LOW-COST VENTILATION

FEATURES:

- Streamlined orifice for efficient air entrance
- Aluminum alloy blades—non-rusting, non-crystallizing, non-overloading
- "Gull Wing Design" airfoil blades for strength and uniform pressure
- Effective up to ½ in. static pressure
- Heavy continuous-duty motor
- Permanently lubricated and sealed for life
- Direct-drive for reduced maintenance costs
- Automatic shutters to fit all fan sizes

Hunter SINCE 1888

CLIP AND MAIL NOW FOR COMPLETE DATA

Hunter Fan & Ventilating Company
373 S. Front St., Memphis 2, Tenn.
Send complete information on Hunter Industrial Fan to:

Name _____

Address _____

_____

▲ For more details circle **NED-248 F3** on enclosed inquiry slip ▲

HOBBS

COTTER PINS

LOXIT
Extended Prong

HOBLOK
Hammer-Lock Type

Locks itself when hit with hammer!
No bending of prongs required!

Choose the type that's best for *your* production job! Both are available in steel, brass, stainless steel, and monel.

HOBBS "TANGLE-PROOF" LOCKWASHERS are available in high carbon steel, stainless steels, silicon and phosphor bronze, and all types of platings.

Write now for Hobbs lock washer and cotter pin price lists!

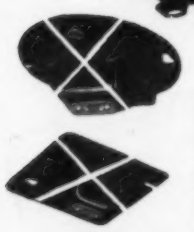
HOBBS MANUFACTURING CO.
Fastener Division
41 SALISBURY ST., WORCESTER 5, MASS.
EST. 1903

For more details circle NED-249 F3 on enclosed inquiry slip

THIS ONE LATE MODEL

10-V SECONDARY
5-WATTS
UNIVERSAL MOUNTING

REPLACES 3 MODELS
For Door Bells, Buzzers, Door Openers and Annunciators



FILL EVERY NEED
STOCK ONLY ONE MODEL

The one Jefferson Universal-Mounting WIZARD Bell Transformer for operation of *door bells, buzzers, annunciators* and *door openers* replaces THREE models. Patented mounting design feature provides easy and quick attachment to any outlet box, cover, or cabinet, with primary leads for connecting to circuit and terminals for bell wires. Mounting feet are also provided for open wiring installations. No special mounting plates are required. Ideal for close-quarter installations. Stocked by Electrical Wholesalers Everywhere.

Jefferson Chime Transformers are also equipped with the Universal Mounting Feature.

JEFFERSON ELECTRIC COMPANY, Bellwood, Illinois
In Canada: Canadian Jefferson Electric Co., Ltd., 384 Pape Ave., Toronto, Ont.

JEFFERSON *Wizard*
BELL TRANSFORMERS
APPROVED BY UNDERWRITERS' LABORATORIES

For more details circle NED-250 F3 on enclosed inquiry slip

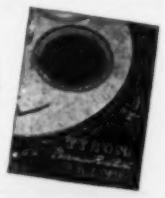
TYGON PLASTIC PAINT
STOPS CORROSION

Protects metal or concrete against attack by acids, alkalies, waters, oils or greases. Tough vinyl plastic sticks like a leech. Outlasts ordinary paints many times over. Brush or spray application. Air dries quickly. Wide range of colors.

Mail coupon for free test sample and new booklet on how to lick corrosion.

50c

U. S. STONEWARE CO.
Dept. NED 351 Akron 9, Ohio
Send free test sample of Series "K" Tygon Paint and your new bulletin telling how and where to use Tygon. (CLIP AND ATTACH COUPON TO COMPANY LETTERHEAD)
Name.....
Address.....
.....



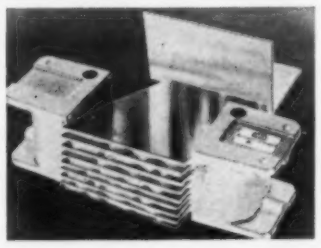
For more details circle NED-251 F3 on enclosed inquiry slip

INDUSTRIAL TURNTABLES
power-driven, up to 8-ft diameter

Self-aligning mesh gears drive these turntables, which have capacities up to 10 tons, friction bearings throughout and remote push-button controls for forward, stop and reverse actions. The largest unit in the line has an 8-ft diameter table, while all models require pit depths of only 15 in. for installation flush with the shop floor. Made by **Chase Foundry & Mfg. Co.**, 3002 Parsons Ave., Columbus, O.

For more details circle NED-252 F3 on enclosed inquiry slip

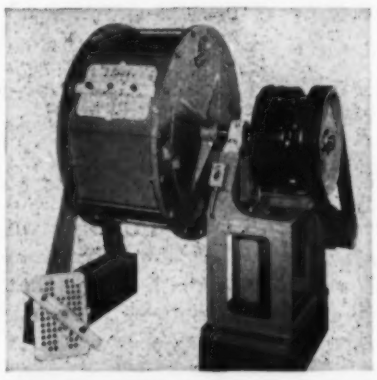
MAGNETIC SHEET SEPARATORS
for feeding steel blanks and sheets



Mounted in die cast housings for strength and easy handling, Eclipse magnetic Floaters are useful for separating blanks before feeding, as in press operations. Permanent magnets induce repelling fields in the blanks, so that even if nested and oily they fan out, speeding the handling operation and eliminating double sheet feeding and resultant die damage. The units can be mounted singly or in combination and are supplied in pairs 3 x 3 in., or 4 x 4 in. Made by **Material Handling Equipment Co.**, 141 E. 44th St., New York 17, N. Y.

For more details circle NED-253 F3 on enclosed inquiry slip

BARREL FINISHING UNIT
interchangeable parts ease service



Barrel finishing unit handles burnishing, deburring and cutting-down operations, and features low power requirement and replaceable barrel end plates and side walls. Push-button switch, which can be used to jog the barrel into any position, governs the precision speed control maintained by an American reduction unit attached directly to the barrel shaft. Units are made in four standard sizes and are available in ten basic combinations with single, double and triple compartments. Made by **Abbott Ball Co.**, 1047 New Britain Ave., Hartford 10, Conn.

For more details circle NED-254 F3 on enclosed inquiry slip

You get *Longer* service life with STAR-KIMBLE squirrel-cage motors

because extra insulation provides added safety factor. Prelubricated bearings run for years without attention. Ventilating fan keeps motor windings cool. Dynamic balancing of rotor minimizes vibration. Get the full story on these and other features of Star-Kimble squirrel-cage motors — ask for Bulletin B-201.

*Demanded by industry for tough start-and-stop jobs

STAR-KIMBLE
MOTOR DIVISION
MIEHLE PRINTING PRESS AND MFG. CO.
214 Bloomfield Ave. Bloomfield, N. J.

For more details circle NED-255 F3 on enclosed inquiry slip

FOR MEN WHO USE WIRE MESH BELTS!

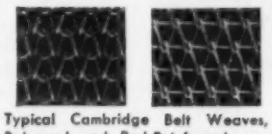
Here's why leading manufacturers specify "Cambridge" wire mesh conveyor belts.

ACCURATE CONSTRUCTION—every step of the construction of your belt is carefully controlled so that the finished belt meets specifications for size, mesh count and mesh opening. Even the welds at the edge of the belt are specially inspected to give you maximum protection at this most vulnerable part of the belt.

RANGE OF SPECIFICATIONS—whether you're handling delicate lightweight loads, such as needle bearings, or heavy, bulky parts such as automotive springs, there's a Cambridge wire belt specification to meet your needs. Even processing through heat, cold or corrosive solutions is a snap when the proper metal or alloy is chosen for fabricating your belt.

EXPERIENCED ENGINEERING SERVICE—the combination of trained engineers both in the Cambridge plant and on our Sales Staff is your assurance that the belt recommended for you is the right belt. Cambridge engineers can assist you in any phase of conveyor belt usage...conveyor design, plant layout, equipment specification, etc.

P.S. IF YOU DON'T USE WIRE MESH BELTS, you'll do well to find out how they cut costs and boost output by combining product movement with processing in your plant. For information write direct or call in your Cambridge field engineer. Look under "Belting Mechanical" in your classified telephone directory for your Cambridge man.



Typical Cambridge Belt Weaves, Balanced and Rod-Reinforced, are widely used for many processes which can be combined with movement.

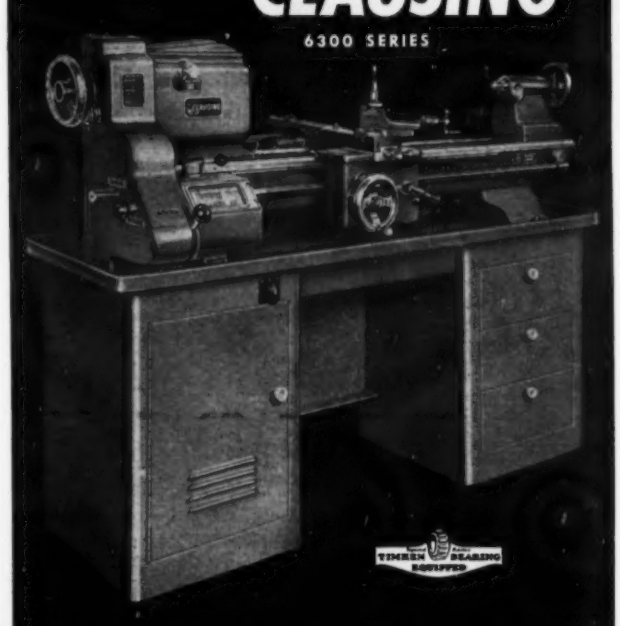
FREE WIRE BELT MANUAL gives data on design, installations, construction. Write for your copy today.

The Cambridge Wire Cloth Co.
WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS
Department C
Cambridge 6, Md.

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

For more details circle NED-256 F3 on enclosed inquiry slip

ALL THESE FEATURES IN ONE LATHE!
CLAUSING
6300 SERIES



HEAVY-DUTY PRECISION 12" LATHE

★ **1" COLLET CAPACITY**
Clausing's 1" collet capacity, 1⅜" bore, 12¾" swing over bed, 7½" swing over saddle, and 24"-36"-48" between centers meets a wide variety of production and tool room needs.

★ **A.S.A. L-00 TAPERED KEY DRIVE SPINDLE**
Clausing spindle is *forged*, precision-ground steel with *tapered key-drive nose.* Reverses without danger of loosening chuck.

★ **TIMKEN BEARING EQUIPPED SPINDLE**
Selected Timken tapered roller bearings permit higher spindle speeds, give longer accuracy life. ⅞" lead screw turns on two Timken bearings in gear box.

★ **INSTANT SELECTION OF 48 THREADS OR FEEDS**
Finger-tip control of 48 feeds from .00065" to .036" per spindle revolution, and right and left hand threads 4 to 224.

★ **"VARI-DRIVE" OR STANDARD DRIVE**
Vari-Drive provides any speed from 30 to 1400 RPM by merely setting a dial. Standard drive — 8 speeds, 50 to 1300 RPM.

★ **OUTBOARD DRIVE, ENCLOSED HEADSTOCK**
Dual A-belt drive, full power transfer. Quick, easy belt changes. Oil-bath lubrication of vital headstock gears.

★ **HEAVY-DUTY, PRECISION V-BED**
Single, massive semi-steel casting with Vee-ways, flat ways and undersides — precision-ground to align to within .001".

These highlights indicate why there's no comparable lathe at Clausing's price in the 12" field. Ask your dealer to show it to you, or send for the latest catalog.

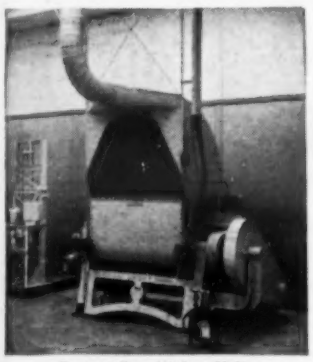
Atlas CLAUSING
CLAUSING DIVISION
ATLAS PRESS COMPANY
6-113 N. PITCHER ST. • KALAMAZOO, MICH.

For more details circle NED-257 F3 on enclosed inquiry slip

NEW ADJUSTABLE DRILL JIG
eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carriers hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works**, 22 Hancock St., Quincy, Mass. *Advt.*

▲ For more details circle **NED-258 F3** on enclosed inquiry slip ▲



Typical Dry Mixing Unit Utilizing ROTO-CLONE Dust Control

Mixing Dry Materials?

Then Let ROTO-CLONE Collect the DUST

Dust released by mixing or blending of dry materials in volume is certain to be a nuisance—and may be of value. ROTO-CLONE Dust Control Equipment offers a wide range of dry or wet-type collectors. Degree of collection efficiency desired, method of dust recovery or disposal preferred, are all predetermined by your specific operations—then matched with a type ROTO-CLONE meeting these needs.

Why not let your local AAF representative analyze your particular dust problem? His "line of equipment", rather than "line of talk", is the basis for sound, unbiased answers. Call him today or write us direct.

American Air Filter COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle **NED-259 F3** on enclosed inquiry slip ▲

Man-Cooler!

Coppus Airplane Type Heat Killer cools large areas — restores efficiency

HEAT KILLER on the job in drop forge plant.

Steel mills, drop forge plants, foundries and other plants with hot working conditions find this Coppus Heat Killer increases worker efficiency . . . at reasonable cost. *A single fan cools large areas.*

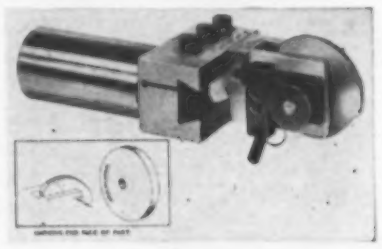
Other types also available for cooling furnaces, electrical equipment, for driving out gases, drying out products, drawing out fumes. Write now for detailed information.

COPPUS ENGINEERING CORPORATION, 406 PARK AVENUE, WORCESTER 2, MASSACHUSETTS.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

▲ For more details circle **NED-260 F3** on enclosed inquiry slip ▲

PARTS MARKING TOOL
fits into a screw machine cycle



Marking device for screw machines permits die marking of parts on the end face during the machine cycle, eliminating the need for separate setups for marking. It is suitable for both light and heavy work on automatic and hand operated screw machines and on bench and turret lathes, and will mark any diameter part face from 1½ in. up. Design is such that depth of impression is easily set, while no special cams or feeds are needed on the screw machine. Made by **New Method Steel Stamps, Inc.**, 147 Jos. Campau St., Detroit 7, Mich.

▲ For more details circle **NED-261 F3** on enclosed inquiry slip ▲

WEIGHING UNITS
portable and hydraulically operated

Accurate to 0.1 per cent of scale and stocked in capacities to 50 tons, line of weighing units is portable, hydraulically operated and permits laboratory-accurate force measurement anywhere in the plant and on the job. Standard models are available in 24 ranges from 0-500 to 0-100,000-lb. There are four load cell sizes with a choice of 8½, 12 and 16-in. indicators. Fully calibrated custom assemblies incorporating accessories and providing ranges as high as 0-10,000,000-lb are also available. Made by **A. H. Emery Co.**, Dept. A, New Canaan, Conn.

▲ For more details circle **NED-262 F3** on enclosed inquiry slip ▲

CHEMICAL RESISTANT COATS
withstand laundering and are lightweight

Acid and alkali resistant Vinyon-N fabric used in Feon lab coats is virtually immune to spotting and acid holes. It retains its tailored appearance through hard wear and commercial launderings and, being admiralty gray in color, will not show dirt readily. Coat is light in weight, cool and smooth, and has pleated back, deep armpits and deep pockets for comfort. Made by **Filtration Engineers, Inc.**, Filtration Fabrics Div., 155 Oraton St., Newark 4, N. J.

▲ For more details circle **NED-263 F3** on enclosed inquiry slip ▲

POR-ROK (POUR ROCK)
Fast Setting Cement

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

▲ For more details circle **NED-264 F3** on enclosed inquiry slip ▲

BACKED BY NATIONAL SALES AND SERVICE

AMERICAN PULLMAX COMPANY, INC.
2457 NORTH SHEFFIELD AVENUE · CHICAGO 14, ILLINOIS

▲ For more details circle **NED-265 F3** on enclosed inquiry slip ▲

Important savings at Eureka-Williams Corp. because

ALL drawings are reproduced on Kodagraph Autopositive Paper

In print production . . . no wear-and-tear to valuable originals. The Eureka-Williams Corp., Bloomington, Ill., protects its ever-growing investment in drafting time and dollars by using low-cost Kodagraph Autopositive intermediates to obtain the desired number of shop prints. These intermediates, unlike the original drawings, will not smudge or lose line density with repeated printings . . . will produce highly legible prints time after time. Furthermore, their dense photographic black lines and evenly translucent base permit running the prints at uniform, practical speeds.

These positive photographic intermediates are produced *directly* . . . without the negative step. A standard print-making machine is used for exposure . . . standard photographic solutions for processing. A fast, easy room-light operation *that saves dollars!*

In drafting . . . revisions made 7 times faster. The basic designs for Eureka-Williams oil burners, furnaces, and vacuum cleaners are being modified constantly for the production of various models. Here's just one way Autopositive is used to boil 3 days of drafting time down to 3 hours—

1. An Autopositive intermediate is made of the drawing which is to be revised.
2. The draftsman deletes the unwanted parts of this print with a razor blade.
3. From this, another Autopositive intermediate is made.
4. Then the draftsman only has to add the new design . . . and a new "file original" is ready. From it, additional Autopositives can be made for print production.

Get complete facts on Kodagraph Autopositive Paper, which you or your blueprinter, can process quickly, at low cost. Write for a free copy of "New Short Cuts and Savings."

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak TRADE-MARK

▲ For more details circle **NED-266 F3** on enclosed inquiry slip ▲

SINGLE-ACTING Air-Clamp*

*Pneumatic Cylinders

Bore	STROKES Horizontal	STROKES Vertical
1"	⅝"	⅝"
2¼"	1"-2"-3"	1"-2"
3"		½"-2"
4"	2"-2½"	2"
5"	3"	3"
6"	3"	2"

NEW CATALOG READY! Complete line of simple adaptable, compact spring-return air cylinders. Cut costs and speed up production the modern, Air Power way. Write today.

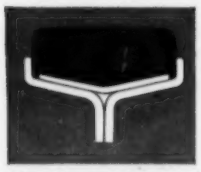
MEAD SPECIALTIES COMPANY

4114 No. Knox Ave., Dept. NA-63 Chicago 41, Ill.

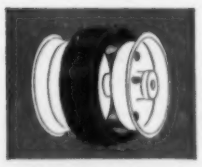
For more details circle NED-267 F3 on enclosed inquiry slip

AT LAST! something REALLY NEW in industrial wheels... Rapistan's MB

The first STEEL BASED rubber tire demountable wheel



Live rubber tread is bonded for life to band of steel. Cannot slip, stretch or creep. Neoprene available at no extra cost.



Just four bolts to loosen for tire replacement. One-piece hub assembly with felt-sealed roller bearings, extra-large grease reservoir, steel hubcap.

Now it's a fact. A tested fact! A demountable wheel with a thick, live rubber tire *bonded to a band of steel!* A wheel that gives you the performance of a molded-on rubber type . . . the quality of a high-priced pressed-on industrial type . . . and the economy of a demountable type wheel.

Your savings add up to 30%

The MB wheel costs about 10% less than the average molded-on wheel. But you really save money when the tire is worn. You don't discard the wheel. You don't ship it back for retread. You simply replace its steel-bonded tire quickly and inexpensively. Result—a whopping 30% saving compared to molded-on rubber wheels.

Proved beyond 28 doubts!

Gruelling laboratory "punishment" tests, and comparative service tests conducted for six months in 28 leading plants have proved the Rapistan MB is *it*—superior beyond doubt. The results of these tests are yours for the asking. Write for the facts and judge for yourself.

SEND ME PROOF

Send me test results and comments of test-users concerning the MB Wheel. Also specifications and prices on sizes now available.

The RAPIDS-STANDARD CO., Inc 81 Rapistan Bldg., Grand Rapids, Mich.

Rapistan®

Fastest Growing Name in Casters

Representatives in Principal Cities

Name_____

Firm_____

Address_____

City_____ Zone____ State____

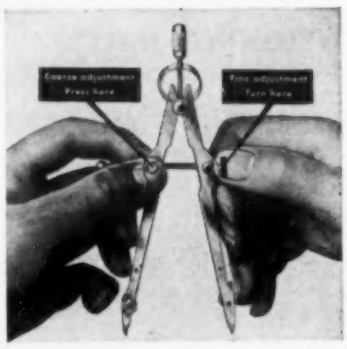
For more details circle NED-268 F3 on enclosed inquiry slip

SMALL MOTORS extreme low speed at light load

Available at speeds from 10 revolutions per hour to one revolution per month, series S-200 synchronous motor features an additional exposed low speed gear train and will handle a continuous load up to 1 lb-in., and an intermittent load of 5 lb-in. Units have 2-in. diameter and 1⅝-in. depth. Made by **Vocaline Co. of America,** 165 Coulter St., Old Saybrook, Conn.

For more details circle NED-269 F3 on enclosed inquiry slip

DRAFTING COMPASS draws circles from ⅛ to 10 in.



Designed for the modern pencil drafting technique, the Vemco Speed-Bow compass draws circles from ⅛ to 10 in. diameter, the coarse settings being quickly made by a finger-pressure release and the fine adjustments by a thumb screw. Carbon steel and stainless steel construction is used. Tool is equipped with pencil and four types of pen attachments, or can be used with needle points for scribing on steel. Made by **V. & E. Mfg. Co.,** P. O. Box 950-M, Pasadena 20, Calif.

For more details circle NED-270 F3 on enclosed inquiry slip

EXCAVATING CRANE converts for other operations

Variety of material handling functions can be performed by the ½-yd model 205 excavator. Basic machine can be converted from shovel to hoe, dragline, clamshell crane or pile driver. As a heavy duty crane it safely lifts 10 tons on crawlers and 15 tons on a rubber-tired truck mounting. Automatic friction brakes, which hold the excavator on a 30 per cent grade without blocking crawlers, are automatically applied when traction clutches are disengaged. All main clutches are self-adjusting. Made by **Koehring Co.,** Dept. KM, 3026 W. Concordia Ave., Milwaukee 16, Wis.

For more details circle NED-271 F3 on enclosed inquiry slip

LABEL ADDRESSING MADE FASTER.. CHEAPER.. MORE ACCURATE

Multistamp Duplicator makes multiple addressing quick, clean, easy . . 1000 or more clear, sharp copies without re-inking. Prints practically anywhere . . postcards, tags, labels, boxes, cartons, packages, menus, forms, letters . . paper, cloth, wood. Just type, write, trace or draw on inexpensive stencil . . snap it on duplicator . . and print—like using a rubberstamp. New pre-die-cut "FORM-CUT" stencil prints shipping form and identification data in one operation.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

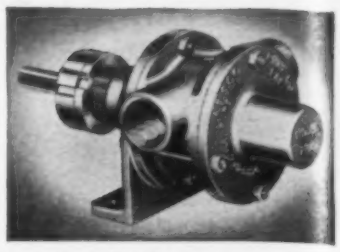
Portable . . non-mechanical . . of non-corrosive metal . . replaceable ink pads. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). Write for literature or see your office or shipping room supply dealer.

OVER 30 YEARS **MULTISTAMP** STENCIL DUPLICATOR

For more details circle NED-272 F3 on enclosed inquiry slip

JABSCO STAINLESS STEEL PUMPS SOLVE CORROSIVE PUMPING PROBLEMS

Designed and Engineered for Chemical Applications



Jabsco's complete line of self-priming, corrosion-resistant pumps answer a multitude of pumping needs. Models 2810 (1" pipe size), 2870 (½"), and 2690 (⅜") have all metallic parts of Type 316 stainless steel. Shafts are supported by oversize, replaceable carbon bearings, stuffingbox type shaft seal with chemical resistant packing. Pumps function perfectly even with dry suction lifts approaching 15', no foot valve is required. When primed, they suck as high as 26'. Jabsco pumps have no metal-to-metal contact, no gears to wear or become noisy. The exclusive "camflexed" Neoprene Impeller is the only moving part. This tough, long-lived, wear resistant impeller is self-lubricated by the liquid pumped. Jabscos are economical, low in first cost, and trouble and maintenance free, even under continuous operation. May be mounted at any angle to pump thin or viscous liquids, and can be operated efficiently at low or high speeds. At 10' head and 1750 RPM, Model 2810 delivers up to 27 GPM, Model 2870 up to 10 GPM, Model 2690 up to 4 GPM. Other stainless steel models also available with ball bearings and mechanical seals. For complete information on how Jabsco can solve your pumping problems, write **Jabsco Pump Company,** 2031 North Lincoln Street, Burbank, California.

Advt.

For more details circle NED-273 F3 on enclosed inquiry slip

Safety Lesson No. 1 COJ

"MISSING LINKS"* Repair Chains Better

Do away with danger of opening up under heavy load by specifying Laughlin "Missing Links".

Pressure fitting of matched halves with special dies insures perfect fit, eliminates tendency of loose-fitting links to shear.

Links, not rivets, carry the load. Interlocking lugs grip firmer, bear the weight. Ordinary round lugs fitted into round holes don't have holding power.

"Missing Links" are also supplied in an exclusive pear shaped design in sizes for ⅜" to 1⅛" chain. Free Catalog No. 150 lists full line.

For Safety's Sake . . . Say LAUGHLIN

THE THOMAS LAUGHLIN CO.

*T. M. REG. 619 Fore Street, Portland, Maine

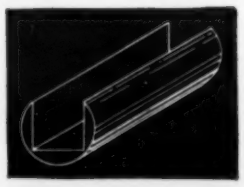
Buy from your local distributor

For more details circle NED-274 F3 on enclosed inquiry slip

Lower TOOLING COSTS WITH SLOTTED SLEEVES

An Easy Method of Installing Tool Bits In Boring Bars, Tool Holders and Cutter Heads

No longer is it necessary to spend hours in filing square or rectangular holes when installing tool bits in boring bars, tool holders and cutter heads. With "Novi" Slotted Sleeves, you just ream a hole to fit the sleeve. Then drill and tap two more holes—one to hold the tool in place and the other for adjustment. All done in a matter of minutes!



Made in sizes for tool bits 3/16" to 1" wide and 1" to 4" long

See Your Local Distributor or Write for Literature

NOVI TOOL & MACHINE CO.

43043 Grand River Novi, Mich.

Novi SLOTTED SLEEVES

For more details circle NED-275 F3 on enclosed inquiry slip

NOW... *Correct Taper*

—FOR MAXIMUM GRIP
—FOR EASY REMOVAL
IN
INTERCHANGEABLE TAPERED BUSHINGS AND SPROCKETS

BOSTON Gear

SHOLD-A-GRIP

Correct Taper
—FOR STRONGER, SLIP-PROOF GRIP
—FOR EASY REMOVAL Provides maximum holding power, even on worn shafts. Permits easy disassembly.

Broader Size Range
FIT SHAFTS ½" to 2½" BY 16THS
Any commonly used sprocket, ½" to 2¼" pitch can be interchanged on an extended range of shaft sizes.

FOR COMPLETE INFORMATION, ask your BOSTON Gear Distributor, or write: Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

SEE YOUR BOSTON Gear DISTRIBUTOR

▲ For more details circle NED-276 F3 on enclosed inquiry slip ▲

SPACE HEATERS
85,000 to 215,000 Btu/hour outputs

Suspended space heaters suitable for natural, manufactured or mixed liquid petroleum, sewage or coke-oven gas, are available with output capacities ranging from 85,000 to 215,000 Btu per hour. Model D unit has standard fan, and model DB features squirrel-cage blower for short duct runs. Model DD, without blower, is designed to be built directly into air-conditioning duct system. All are AGA-approved and UL-listed. Removable cast-iron bunsen type burner assembly is easy to service, and drawer frame slides out with mounted burners and all controls. Made by **Dravo Corp.**, Machinery Div., Dept. NED, 1203 Dravo Bldg., Pittsburgh 22, Pa.

▲ For more details circle NED-279 F3 on enclosed inquiry slip ▲

YOU CAN DO IT FASTER with HANSEN ONE-HAND TACKER

MODEL T-1 TACKING TABLE TOPS

Only ONE of 1001 Uses

FASTER! With its zip-zip compound leverage action, Hansen saves time in all types of tacking and fastening. Fast, easy one-hand operation. Tacks fast as you grip.

BETTER! Balanced design insures accurate, precision driving. Powerful action drives each staple firmly and neatly in place for improved quality and increased holding power. It is adaptable to a wide variety of uses.

AT LESS COST! Hansen saves *time, steps,* and *materials* — operates faster—saves back-tracking—ready for instant, continual use.

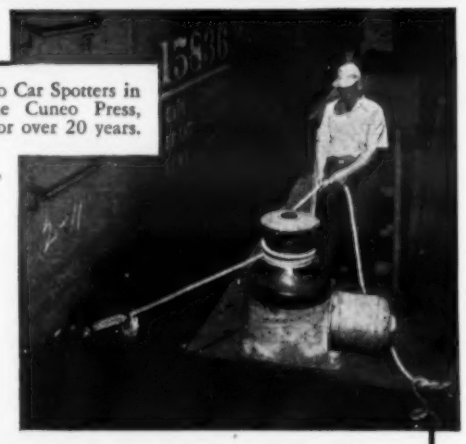
(MODEL T-3-4 HANSEN TACKER)

36 DIFFERENT MODELS
80 STAPLE SIZES

REQUEST BOOKLET TODAY

A.L. HANSEN MFG. CO.
5164 RAVENSWOOD AVE., CHICAGO 40, ILL.

▲ For more details circle NED-283 F3 on enclosed inquiry slip ▲



One of two Car Spotters in use at the Cuneo Press, Chicago, for over 20 years.

HERE'S a sure way to reduce demurrage charges

LINK-BELT CAR SPOTTER speeds spotting of cars for loading and unloading. That means reduced switching time and lower demurrage costs. And only one man is needed to move railroad cars. Add up these savings, and there's only one answer—lowered costs, money saved. Available in portable or stationary models for moving up to six loaded railroad cars.

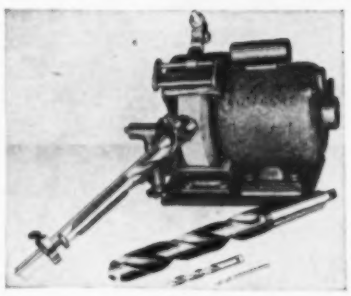
LINK-BELT CAR SPOTTER

Send for Book 2092—for facts on car spotters and drum type pullers.

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities.

▲ For more details circle NED-277 F3 on enclosed inquiry slip ▲

TWIST DRILL GRINDER
two holders handle all drill sizes



Only two holders are required to sharpen straight or taper-shank twist drills in all sizes from ⅛ to 1½ in. on this model 200 twist drill grinder. Simple one-knob adjustment instantly obtains infinite range of point angles for drilling different kinds of materials. Grinder is calibrated for standard 59, 90, 130 and 140-degree points. Wheel wear compensation is automatic, and built-in diamond wheel dresser is standard. Grinder is furnished with ¼-hp, 110-v, 60 cycle dust-sealed motor. Other motor specifications are available. Unit does not have to be bolted down for vibration-free operation and is thus semiportable. Made by **Alden Industries,** 1392 Sackett St., Cuyahoga Falls, O.

▲ For more details circle NED-280 F3 on enclosed inquiry slip ▲

Rubber Covered Rolls

Tyer Rubber Co.—Variety of rubber covered rollers for paper, textile, plastics, packaging, abrasive and other industries is discussed in 4-page illustrated folder R52. Characteristics and advantages of various rubber compound types are covered and a Densimeter-Plastometer conversion chart is included.

▲ For more details circle NED-281 F3 on enclosed inquiry slip ▲

Get these "BEAUTY SECRETS" for finishing furniture and wood products!

Are you getting the results you need from stains . . . fillers . . . sealers? Are your top-coat materials providing the sales appeal you need for competitive selling? Here's help in checking present methods and materials as well as possible finishing problems.

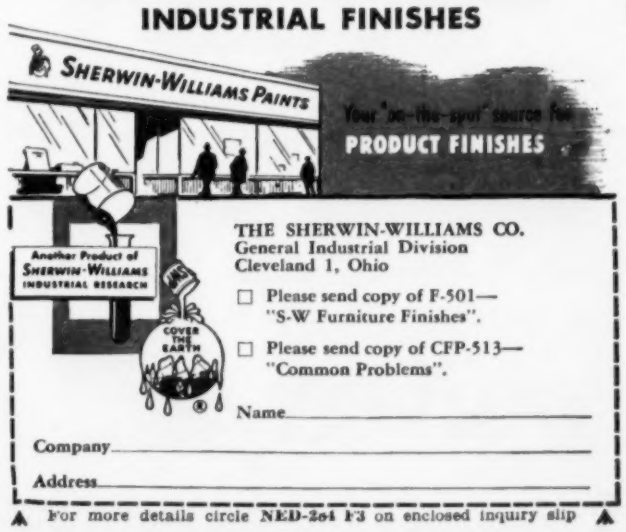
Helpful Facts on Finishing Furniture and Wood Products (Brochure F-501)—Tells about uses of various stains . . . most successful methods of bleaching, antiquing, special finishing . . . application information covering stains, sealers, top-coats.

Common Problems in Product Finishing (Brochure CFP-513)—A handy check list in finding causes and cures for product finishing difficulties.

These books are part of the "on-the-spot", local industrial service offered to manufacturers everywhere through more than 500 Sherwin-Williams Branches. Consult your classified telephone directory—check this handy source for your product finishing needs, and ask for brochures listed here. Or mail the coupon below.

Services of trained industrial finish specialists available in your area through nearest Branch

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES



THE SHERWIN-WILLIAMS CO.
General Industrial Division
Cleveland 1, Ohio

☐ Please send copy of F-501—"S-W Furniture Finishes".
☐ Please send copy of CFP-513—"Common Problems".

Name_____
Company_____
Address_____

▲ For more details circle NED-264 F3 on enclosed inquiry slip ▲

This NEW 20 amp Switch has Levolier® dependability

Levolier® MODEL 2020

20A 125V—10A 250V to control 2500 watts safely on heaters, motors, high bay lighting, fluorescent banks, etc. AC and DC rating. Single pole multiple break mechanism. Molded phenolic case only 1¼" thick. Underwriters Laboratories Inspected.

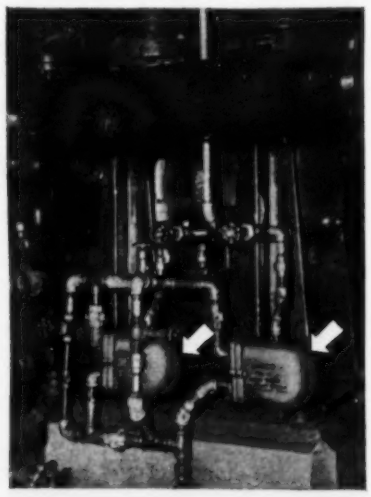
Send for McGill Catalog No. 49-A

McGILL® electrical specialties

McGILL MANUFACTURING CO., INC. 151 N. CAMPBELL ST. VALPARAISO, INDIANA

▲ For more details circle NED-278 F3 on enclosed inquiry slip ▲

Remove Water from Compressed Air with Sarco Drain Traps



Water accumulating in compressed air systems must be drained off promptly to prevent damage to tools, marred paint surfaces or wetting of material to be cleaned—especially electrical machines.

Sarco Drain Traps should be installed at the after-coolers (as in our illustration) on separators, at the receiver, and on low points in the lines, to remove all water as it accumulates.

These traps are available for pressures to 750 psi. Operate automatically without waste of air. Technical Bulletin No. 5 will help you get more work from your air compressors at less cost. Write for it to *Sarco Company, Inc., Empire State Bldg., New York 1, N. Y.*

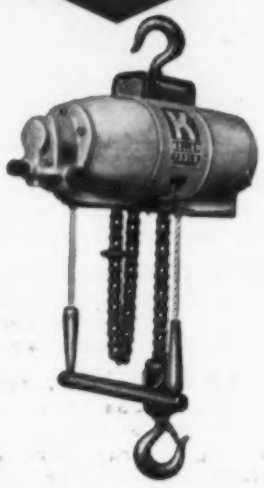
Advt. 615

▲ For more details circle NED-282 F3 on enclosed inquiry slip ▲

KELLER Air Hoist

with positive displacement piston-type air motor

RATED FOR continuous duty



Keller Air Hoists can be used continuously over periods of hours (or days) without danger of shortening motor life.

DUST, FUMES cannot injure an air motor. Nor will it burn out, even if stalled all day long.

LOW MAINTENANCE because of simple design.

VARIABLE SPEED from 0 to 17 fpm permits safe handling of fragile loads.

LIGHTWEIGHT — A 1,000-lb capacity hoist weighs only 30 lb—easy to move from job to job.

Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
GRAND HAVEN, MICHIGAN

▲ For more details circle NED-285 F3 on enclosed inquiry slip ▲

GET MORE OUT OF YOUR SPRAYING EQUIPMENT WITH LESS POWER

For spraying, washing, rinsing, cooling and air conditioning, Yarway Spray Nozzles will improve the efficiency of your spray equipment.

There are no internal vanes or other restrictions to clog or hinder the flow.

Cast bronze Involute-type

Bar stock Involute-type Bar stock Fan-spray-type

Yarway Spray Nozzles are available in two types—the Yarway Involute producing fine hollow cone spray with minimum energy loss, and the Yarway Fan-spray for flat fan-shaped spray with time-saving slicing action for cleaning.

Wide range of standard sizes and capacities. Made of metal castings or machined from solid bar stock.

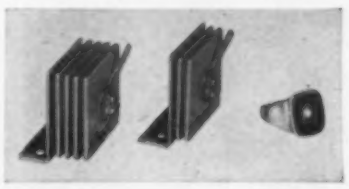
The 20-page Yarway Spray Nozzle Bulletin contains not only complete details on Yarway Spray Nozzles and Fittings, but also much helpful information on the many uses for spray nozzles. Ask for a free copy—Bulletin N-617.

YARNALL-WARING COMPANY
131 Mermaid Ave., Philadelphia 18, Pa.

YARWAY / spray nozzles

▲ For more details circle NED-286 F3 on enclosed inquiry slip ▲

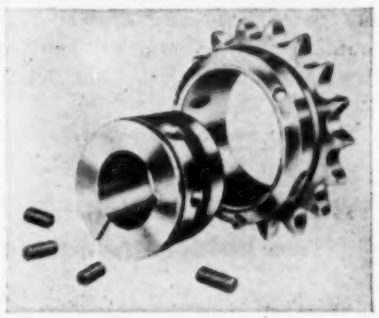
SELENIUM REGULATORS for relatively low dc voltages



Type D-568 selenium regulator is recommended for the regulation of voltages in the order of 1.5 v dc, and consists of two processed selenium plates connected in series on a mounting bracket. This construction is typical of the two other models currently available from production, types D-923 and D-1064. These units are recommended for regulation of 2 and 3 v dc respectively. For higher voltages, regulators can be produced by adding more plates to the basic design. Made by **International Rectifier Corp.**, 1523 E. Grand Ave., El Segundo, Calif.

▲ For more details circle NED-287 F3 on enclosed inquiry slip ▲

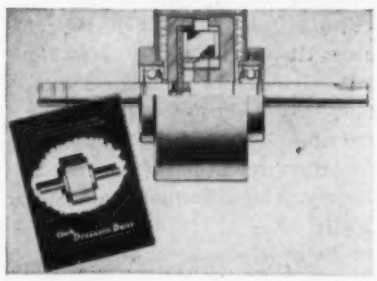
ROLLER CHAIN SPROCKETS interchangeable hubs simplify change



By using different sizes of tapered split bushings or split hubs, Grip-Master roller chain sprockets eliminate need for boring and simplify changes. Positive press fits are assured. Sprockets are furnished in tapered split bushing and split hub types to meet most requirements. They are completely packaged with mounting instructions. Applications are many. Made by **Cullman Wheel Co.**, 1333 Altgeld St., Chicago, Ill.

▲ For more details circle NED-288 F3 on enclosed inquiry slip ▲

MAGNETIC CLUTCH driven by stainless steel particles



Simple design, fast response and torque range from zero to full capacity are reported features of the Dynamatic Drive clutch which utilizes stable particles of stainless steel as binders between driving and driven plates. When magnetized, these particles bind the rotating members together with a force in direct proportion to the energy induced. Advantages include smooth engagement with no grab or chatter, continuous operation with neglible wear and easy adaptation to remote control. Made by **Clark Mfg. Co.**, 1832 E. 38th St., Cleveland 14, O.

▲ For more details circle NED-289 F3 on enclosed inquiry slip ▲

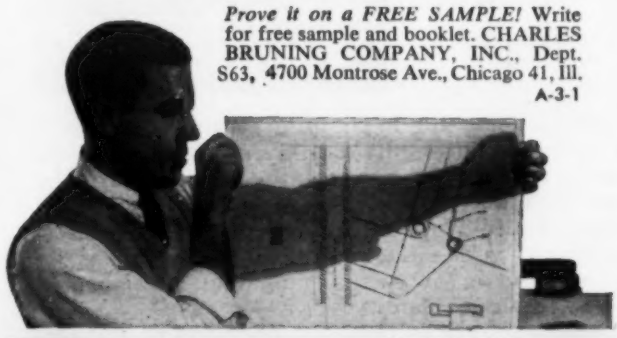
FOR BETTER PRINTS...

BRUTEX

PENCIL TRACING CLOTH

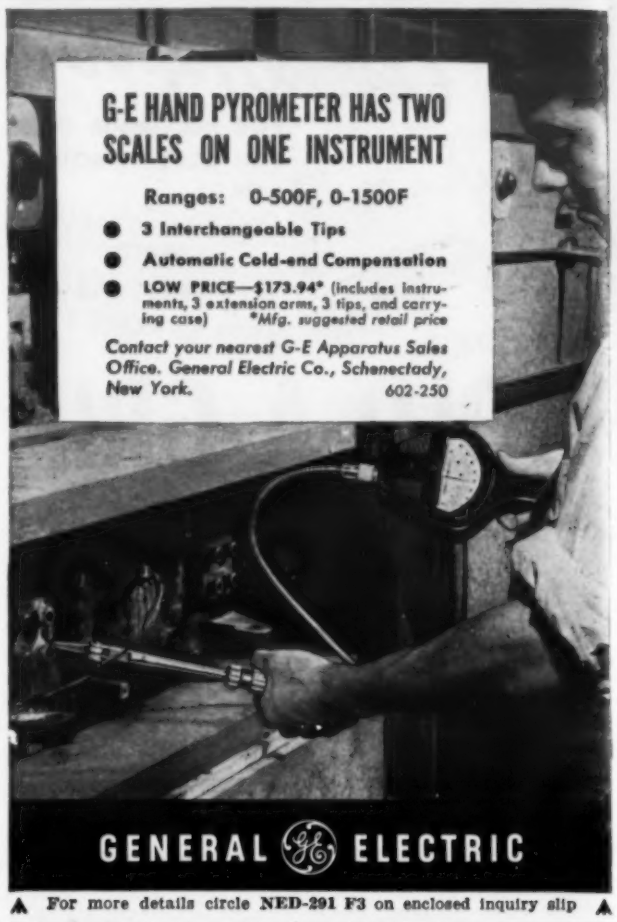
1. **SUPER-VELVET MATTE SURFACE** . . . white or blue—exactly right for pencils of even the harder grades.
2. **UNIFORM TRANSLUCENCY** . . . makes clean, sharp prints.
3. **ERASES EASILY** . . . no "ghosting". Surface is unaffected by even repeated erasures.
4. **MOISTURE-RESISTANT** . . . no "spots" from dampness or perspiration.
5. **PERMANENT** . . . won't discolor, become brittle, or lose translucency.

Prove it on a FREE SAMPLE! Write for free sample and booklet. CHARLES BRUNING COMPANY, INC., Dept. S63, 4700 Montrose Ave., Chicago 41, Ill. A-3-1



BRUNING
Everything for the Engineer and Draftsman

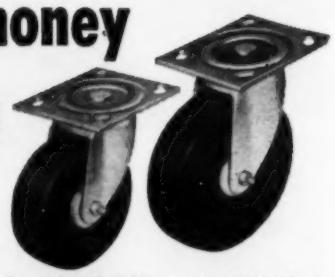
▲ For more details circle NED-290 F3 on enclosed inquiry slip ▲



▲ For more details circle NED-291 F3 on enclosed inquiry slip ▲

▲ For more details circle NED-292 F3 on enclosed inquiry slip ▲

Two new Bassick Casters save you money right down the line!



Series "H68" 5" and 6" sizes for loads up to 1400 lbs

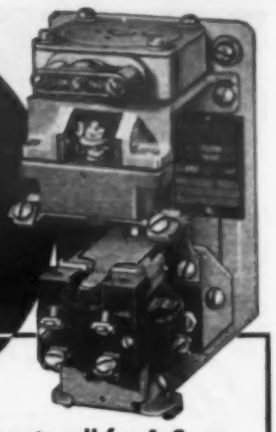
- ✓ **LOWER INITIAL COST** . . . You get *double* ball-bearing swivel action, at a lower price than most 5" and 6" casters with *single* ball race.
- ✓ **EASIER SWIVELING** . . . The Bassick "Diamond-Arrow" double ball-bearing swivel action rotates faster and easier, is more efficient.
- ✓ **LONGER LIFE** . . . Fully case-hardened bearing raceways mean extra durability, longer service life.

Made with roller bearing wheels in soft rubber or tough Atlasite solid composition tread, with thread guards. Write for detailed specifications. THE BASSICK COMPANY, Bridgeport 2, Conn. *In Canada:* Belleville, Ont.

Bassick A DIVISION OF STEWART SW WARNER
MAKING MORE KINDS OF CASTERS... MAKING CASTERS DO MORE

▲ For more details circle NED-293 F3 on enclosed inquiry slip ▲

Do the job BETTER with SQUARE D Pneumatic Timers



Whether your requirements call for A.C. or D.C., these Square D design features deliver the most in consistent and accurate performance

Wide Range • Time delay period easily adjusted over a period of 0.2 seconds to 3 minutes in an infinite number of steps.

Easy Adjustment • Finger tip adjustment of timing period can be made simply by rotating a knurled knob or a micrometer dial.

Repeat Accuracy • Less than 10% variation from the mean timing period. Accurate timing, even under abnormal ambient temperature conditions.

Write for Bulletin 225. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

▲ For more details circle NED-294 F3 on enclosed inquiry slip ▲

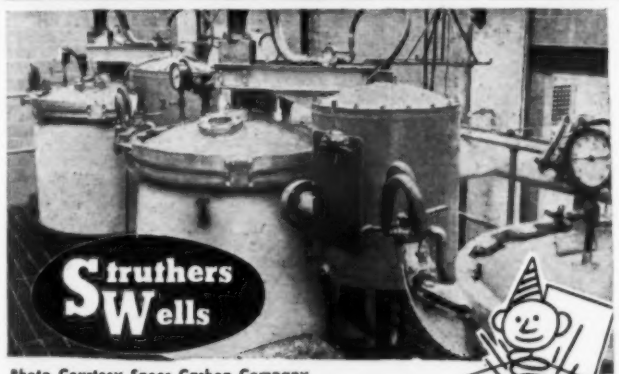


Photo Courtesy Speer Carbon Company

THE STRUTHERS WELLS

IMPREGNATOR

. . . with the Quick Opening Closure!

for Impregnating Electrical Coils, Aluminum or Magnesium Castings, Carbon Parts and Other Materials

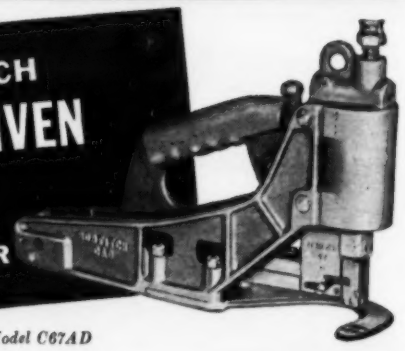
The improved Struthers Wells impregnating system illustrated—one of many recent installations—is heated with circulating hot oil, with a separate hot air system for preheating the charge before impregnation. Covers are quickly removed or installed—with great savings in operating labor. Furnished as bare units, or complete with piping, instruments and accessories. Heated by steam, electricity or circulating heat transfer medium.

Write for Bulletin B-30 (on your letterhead, please)

STRUTHERS WELLS CORPORATION
WARREN, PA.
Plants at WARREN, PA. and TITUSVILLE, PA.

▲ For more details circle NED-295 F3 on enclosed inquiry slip ▲

BOSTITCH AIR-DRIVEN HEAVY DUTY STAPLER



Model C67AD

POWERFUL Drives staples with far greater force, faster and with less effort than is possible with hand-operated machines.

FAST One-hand, trigger operation. Loads quickly with ¼", ⅜" or ½" staples.

3 MODELS Available with 3 types of clinching blade: "C" blade and "openhead" blade for sealing overlapped flaps of corrugated containers, and straight blade for ordinary stapling.

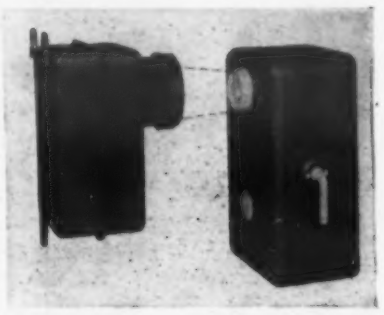
Write for Bulletin 272. BOSTITCH, 686 Mechanic Street, Westerly, R. I.

BOSTITCH®

fastens it better, AND FASTER with wire

▲ For more details circle NED-296 F3 on enclosed inquiry slip ▲

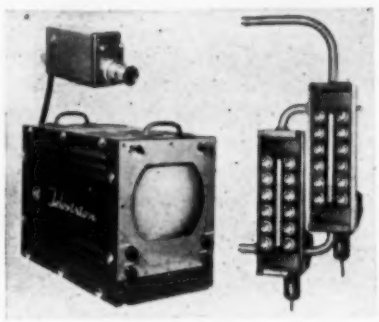
PHOTOELECTRIC ALARM
effective range up to 50 ft



Simplified installation, minimum maintenance and weather shielding are the features of the photoelectric alarm set P1A which scans a space of 50 ft in depth from its infrared light source. When the beam is broken, an alarm is operated which can only be shut off by restoring the circuit to original condition by use of a reset switch. The unit operates on a power supply of 115-v ac. Made by **Photoswitch Inc.,** 77-89 Broadway, Cambridge 42, Mass.

▲ For more details circle NED-297 F3 on enclosed inquiry slip ▲

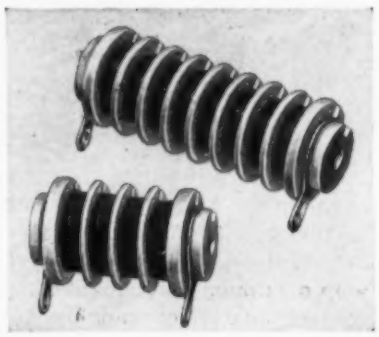
WATER GAGE TELEVISION
centralizes remote gage readings



Boiler water gage readings can now be brought into the operating panel or any other location in the boiler plant through application of RCA television monitors. Image is transmitted from the small lightweight camera to the viewing machine through a single cable. The camera base also furnishes proper lighting for the gages. Available from **Yarnall-Waring Co.,** 131 Mermaid Ave., Philadelphia 18, Pa.

▲ For more details circle NED-298 F3 on enclosed inquiry slip ▲

RESISTORS
heat-resistant and noninductive



Glass fiber insulated wire is used in the type G precision resistors, giving heat resistant qualities that afford wattage ratings five to ten times over those of commercial precision wire-wound units of the same dimensions. A Silicone impregnation process permits a conservative rating for a 150° C temperature rise above an ambient of 25° C. These resistors are available in all standard bobbin sizes and with ratings from 1 to 20 watts. Made by **Shallcross Mfg. Co.,** 10-F Jackson Ave., Collingdale, Pa.

▲ For more details circle NED-299 F3 on enclosed inquiry slip ▲

For your product-improving "TOUCH OF GOLD" —polish with ALUNDUM* Abrasive

Count on Norton ALUNDUM abrasive grain for extreme hardness and toughness, strict uniformity in size and shape, with a maximum of fast polishing, sharp-cutting edges. And its high capillarity means increased polishing wheel life and efficiency.

These and other advantages assure better polishing — your value-adding, cost-cutting "Touch of Gold" — every time you use ALUNDUM Abrasive.

YOUR NORTON DISTRIBUTOR can make quick deliveries, in any required quantity, from complete stocks in key cities. See him, too, about expert aid in polishing problems from your Norton Abrasive Engineer. Or write Norton Company, Worcester 6, Mass. Distributors in all principal cities. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Mass.

*Trade-Mark Reg. U. S. Pat. Off. and Foreign Countries G-252

NORTON ABRASIVES
Making better products to make other products better

▲ For more details circle NED-300 F3 on enclosed inquiry slip ▲

OLSON CONVEYORS

for ALL Purposes

Engineered to really do the Job

Apron, Belt, Chain, Roller, Live-Roller, Slat, Trolley, and Wheel Conveyors — portable and stationary. Bucket and Push Bar Elevators — Spiral Chutes — Sparkless Conveyors for Munitions Plants—Special Conveyors for Shells, etc.

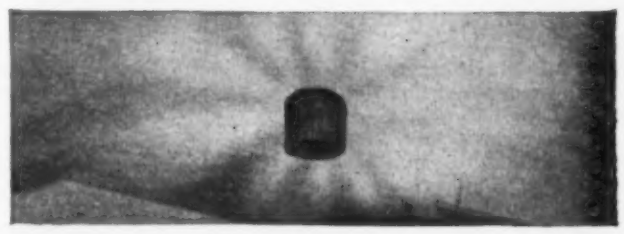
OLSON Specialized Experience is at your service in engineering material handling equipment for your requirements.

Tell us what you want to do or send for literature.

SAMUEL OLSON MFG. CO., INC.
2423 Bloomingdale Ave. Chicago 47, Ill.

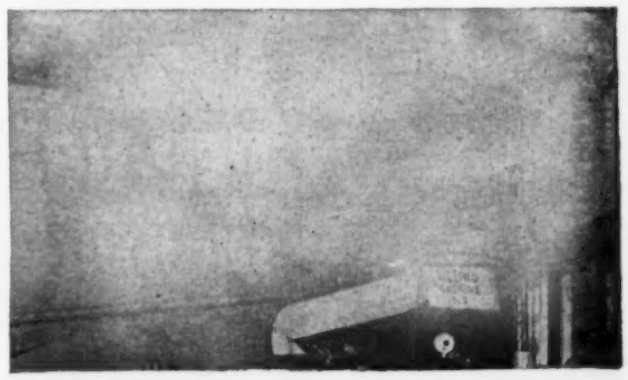
▲ For more details circle NED-301 F3 on enclosed inquiry slip ▲

INSECTICIDE FOG COSTS 5¢ FOR 1,000 cu.ft.



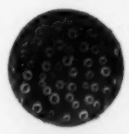
1 second — 10 precision machined suction nozzles on West Atomizer suspended from ceiling start filling the air with deadly "dry mist". Only 1 ounce of Vaposector needed to control flying insects; 2 ounces for crawling insects in 1,000 cu. ft.

2 seconds — Fog droplets are so small they hang in the air . . . seep into cracks . . . penetrate delicate insect breathing tubes. The combination of efficient West Atomizing equipment and high potency insecticide produces thorough insect protection at a remarkably low cost.



3 seconds — Insects have no place to hide. One man has completely fogged this area and all other plant areas by merely turning a valve. This Insect Control Program was set up by a West Specialist. Your plant can be surveyed too. Without obligation. There's a complete line of West insecticides and equipment — permanent or portable — to choose from. Just write in.

***FREE BOOKLET** available on request.*



Magnified photo of uniform 8 micron droplets produced by West Atomizer equipment. "Dry mist" remains airborne for prolonged periods of time.

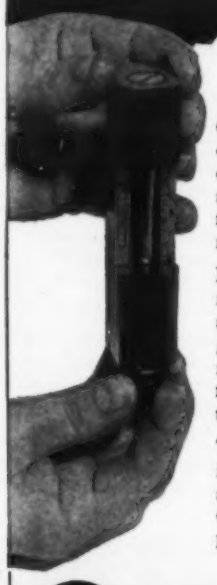
Photo of droplets produced by ordinary hydraulic compressor sprayers. Vary from 2 to 300 microns. Larger droplets fall, wetting floors and cutting effectiveness.

WEST DISINFECTING COMPANY
42-16 West Street • Long Island City 1, N. Y.

▲ For more details circle NED-302 F3 on enclosed inquiry slip ▲

NEW! Inexpensive Purge Rotameters*

INDICATE and PERMIT MANUAL CONTROL OF FLUID FLOW IN SMALL QUANTITIES



*(*featuring a back flow check valve and flow control valve)*

● This new SK Purge Rotameter is designed for use where small, low-cost flow meters are needed to indicate and manually control small flows of fluids with good reproducibility but moderate actual measuring accuracy.

Rate of flow of the fluid through the meter is indicated by the position of a ball float moving in the tapered glass meter tube. Flow rate is read in reference to the center of the ball float on a scale mounted alongside the meter body.

The instrument has several outstanding features—the valves mentioned above, rigid one-piece body, others. Complete details are available. WRITE FOR BULLETIN 18-RB, SUPPLEMENT PR.

SCHUTTE AND KOERTING CO.
28 State Road, Cornwells Heights, Bucks County, Pa.

▲ For more details circle NED-303 F3 on enclosed inquiry slip ▲

Self-Locking Self-Sealing LOK-THRED

IN ANY SIZE STUD, BOLT OR SCREW

LOK-THRED can end the difficulties you may be having with involuntary loosening of fasteners . . . leakage of lubricants or other fluids via ordinary threads . . . or even a combination of both.

LOK-THRED *seals as it locks* . . . reforms the receiving thread into an intimate metal-to-metal contact with itself to eliminate every void between the mating threads.

LOK-THRED *can't shake loose,* either . . . actually becomes tighter in service when it is subjected to severe vibration and jarring. Yet, it is fully re-usable . . . requires no selective fits . . . can be used with ordinary tools.

Write today for National's booklet containing complete engineering and application data.

Why not take a detailed look at all the features of LOK-THRED . . . National offers LOK-THRED in all sizes of studs, bolts or screws.

THE NATIONAL SCREW & MFG. CO.
2440 East 75th St. • Cleveland 4, Ohio

▲ For more details circle NED-304 F3 on enclosed inquiry slip ▲

Combat HEAT FATIGUE with PEP-UP® IMPREGNATED Salt Tablets

● **Salt lost through perspiration causes fatigue and heat exhaustion. Vigor and vitality can be increased—fatigue and heat prostration can be eliminated by taking PEP-UP Impregnated Salt Tablets.**

● **Meets Government Specification No. SS-S-31D.**

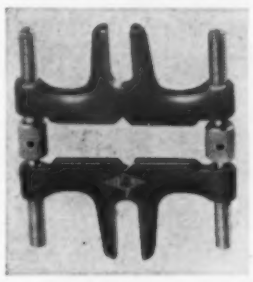
Write for literature and prices

PEP-UP Impregnated Salt Tablets come to you in sanitary, factory sealed dispensers at no extra cost.

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI — BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada PARMELEE, LTD. Toronto — Montreal

▲ For more details circle NED-305 F3 on enclosed inquiry slip ▲

CUTTER GRINDER DOG particularly suited for small work



Readily adjusted to different work diameters, this dog has been expressly designed for cutter grinders, and is useful for small work since its construction permits getting close to the face plate. Two sizes are made, No. 100 with a capacity from ⅛ to 1½-in., and No. 99 with capacity from ½ to 2½-in. Made by **Ready Tool Co.,** 554-D Iranistan Ave., Bridgeport 5, Conn.

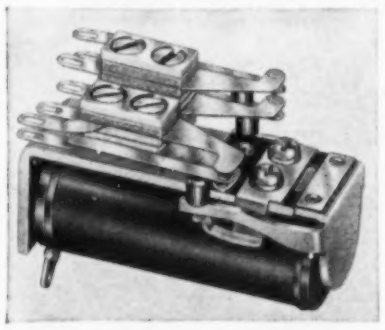
▲ For more details circle NED-306 F3 on enclosed inquiry slip ▲

LEVERAGE PLIERS have 10 to 1 gripping power

Parallel jaw action and three-piece construction provide Gripso multiduty pliers with 10 to 1 multiplied gripping power. Tool withstands jaw pressure test of 2000 lb. Four-position slip-joint action permits jaws to open parallel for solid grip on nuts, bolts and other objects without mutilating corners. Gripping power is sufficient for use as a pipe wrench on ½ and ¾-in. pipe. Length is 8 in. Made by **H. R. Basford Co.,** Dept. G, 235 Fifteenth St., San Francisco 3, Calif.

▲ For more details circle NED-307 F3 on enclosed inquiry slip ▲

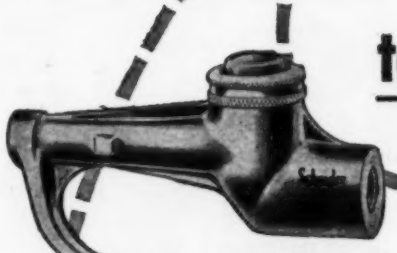
FAST-ACTION RELAY is engineered to specifications



Long core design of fast action T-J telephone type relay makes it suitable for complex circuits involving pull - in and drop-out time delay. It is engineered to specifications and is available with coils for all standard voltages up to 110 v dc and contact combinations up to four-pole, double-throw, or six-pole, single-throw. Standard fine silver contacts are rated at 150 w, 3 amp maximum noninductive load. Palladium or other contact materials can be supplied. Relay is insulated to withstand 1000 v ac and metal parts are heavily plated to resist corrosion. It is available with varnish impregnation and hermetic sealing is offered to meet military specifications. Made by **Comar Electric Co.,** 3351 W. Addison St., Chicago 18, Ill.

▲ For more details circle NED-308 F3 on enclosed inquiry slip ▲

At last! A blow gun that can take it!



You won't have to baby this gun. It was designed to stand up under hard steady use. And then to prove it to ourselves we tested it by dropping it 10 stories . . . it still worked perfectly. That's durability. Combine this with its handy hang up hook, countersunk nose, and shielded operating button and you have a blow gun that will give you years of satisfactory service.

Schrader catalog gives full information on this gun as well as on just about everything that has to do with the use of air around the shop. Send for this catalog today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
495 Vanderbilt Ave., Dept. E-36, Brooklyn 38, N. Y.

▲ For more details circle NED-309 F3 on enclosed inquiry slip ▲

Specify EX-CELL-O Precision Spindles

GRINDER MANUFACTURERS DO!

Insure the accuracy of your grinding equipment as grinder manufacturers do: standardize on Ex-Cell-O Precision Spindles. Ex-Cell-O Spindles are original equipment on many leading machine tools. Select your spindles from the Ex-Cell-O Spindle Catalog. Write for free copy today.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN 51-14

XLO

▲ For more details circle NED-310 F3 on enclosed inquiry slip ▲

IT'S THE NEW P&S **Turnlok** LINE
Receptacles Caps Connectors

"A Turn of the Cap and It's Locked"

Write Dept. N.

P&S Turnlok means time saved . . . money saved . . . increased safety. Easy to wire . . . with added safety features . . . will give years of trouble-free service.

A line on your letterhead will bring you the new 8-page Turnlok descriptive manual.

PASS & SEYMOUR, SYRACUSE 9, N. Y.

NEW YORK OFFICE 71 Murray St., New York 7, N. Y. — CHICAGO OFFICE 1229 W. Washington Blvd., Chicago 7, Ill.

▲ For more details circle NED-311 F3 on enclosed inquiry slip ▲

SAVE DESIGN COSTS PROTECT DELICATE INSTRUMENTS INCREASE PRODUCTION

figure on AC Line Regulation by SORENSEN

Model 500S

Whether you require line regulation for incorporation into new design, for test installation, or for direct application — specify Sorensen electronic regulators. Be assured of economy, accuracy, trouble-free operation.

STANDARD AC SPECIFICATIONS

VA capacity	150 500	250 1000	2000 3000	5000 10000	15000
Regulation accuracy	± 0.1% against line or load				
Input voltage	95-130 VAC; also available for 190-260 VAC single phase 50-60 cycles				
Output voltage	Adjustable between 110-120; 220-240 in 230 VAC models				
Load range	0 to full load				

SORENSEN

SORENSEN & CO., INC.
375 Fairfield Avenue
Stamford, Conn.

▲ For more details circle NED-312 F3 on enclosed inquiry slip ▲

ARE YOU SURE IT'S PURE?

CAN YOU BE SURE no metal particles are getting into your packaged food? Magnets can't stop lead or brass or aluminum. The answer is, you *can't* be sure—without an Electronic Metal Detector. There's no other practical way!

Best of all, Allis-Chalmers Electronic Metal Detectors fit production set-ups. For example, conveyor belts from packaging machines can carry packages through the aperture of the detector at 15 to 600 fpm. Unit compares in upkeep and operating cost with a household radio. Latest design minimizes maintenance.

Call your nearby Allis-Chalmers Office for complete information, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3711

ALLIS-CHALMERS A-C

For more details circle NED-313 F3 on enclosed inquiry slip

SPARE THE MUSCLES!

LET "George" HAUL TOTE BOXES

This cleverly designed, easy-rolling hand truck supplies the leverage that "goes to bat" for employee muscles. Attached rigid handle hook is engaged with tote box handle. With little effort and by natural leverage, the box glides over bevel edge of truck onto rollers when truck handle is pulled forward. Load is safely held on upper rollers while truck is rolled to destination on lower set of traction rollers.

No dangerous lifting of metal-laden boxes . . . long life . . . low cost. Most plants can use several . . . one company bought 150 units. Get yours!

*TRADEMARK

LET "George" DO IT

Send for Bulletin N

ROLOCK Inc. • Fairfield, Conn.

4RGS3

For more details circle NED-314 F3 on enclosed inquiry slip

Viscous Materials FLOW LIKE WATER

through

Parks-Cramer Jacketed Pipe and Fittings

You can't find a better way to convey asphalt, rosin, wax, sulphur, gums, syrups, or other high melting point solid or viscous materials than through Parks-Cramer Jacketed Lines.

Steam, hot water, hot oil, or Dowtherm keep the contents in a quick moving liquid state. Plug-ups are eliminated.

Jacketed Cocks and Fittings are cast in semi-steel, Ductile iron, Ni-Resist and many other materials.

Pipes and Fittings are made in standard sizes with 1¼", 1½", 2", 3", and 4" inside diameter, and include Two-way and Three-way Cocks, Tees, Crosses, 90° and 45° Elbows, and Expansion Joints and Strainers, also 2" and 3" Relief Valves.

Write for Bulletin No. 152N

Parks-Cramer Company
ENGINEERS and CONTRACTORS
Fitchburg, Massachusetts

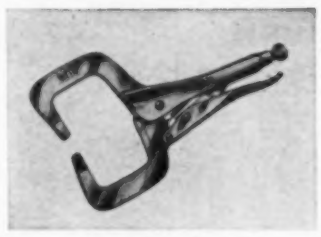
For more details circle NED-315 F3 on enclosed inquiry slip

MITER GEAR BOXES transmit power at right angles

Compact and powerful, these miter gear units are made in two sizes of ⅓ and 1 hp at 1800 rpm. Each size has both a two-way and three-way shaft extension with choice of five mounting facings. The ⅓-hp unit has a static torque of 250 lb-in., while that of the 1-hp unit is 750 lb-in. Made by **Crown Gear, Inc.**, 290 West St., Keene, N. H.

For more details circle NED-316 F3 on enclosed inquiry slip

TOGGLE-TYPE C-CLAMP has large reach and rapid locking



Utilizing a toggle action with an adjusting end-screw to preset the jaw opening to the work size, the Vise-Grip C-Clamp locks with the squeeze of a hand. Large working space between the jaw arms enables the user to clamp such difficult jobs as angle irons and I-beams easily. Work can be positioned with one hand, and the clamp locked with the other. Made by **Petersen Mfg. Co.**, Dept. NE-1, DeWitt, Nebr.

For more details circle NED-317 F3 on enclosed inquiry slip

DEHUMIDIFIER has visual control indicator

The Humidity-Dial of this dehumidifier gives visual indication when operation of unit is necessary to prevent moisture damage. Machine removes from 2 to 3 gal of water from the room air in 24 hours depending on temperature and humidity. Moist air is drawn by fan over the evaporator coils cooled by Freon-12. Water disposal may be either directly into a floor drain; through a standard hose into the drain; or into an 8-qt galvanized steel pail. An automatic timer is an optional accessory which enables the unit to be set for number of hours necessary to control the particular moisture problem. The unit has a chip and corrosion resistant finish. It will control a closed space of up to 10,000 cu ft. Made by **Mitchell Mfg. Co.**, Dept. N-2, 2525 N. Clybourn Ave., Chicago 14, Ill.

For more details circle NED-318 F3 on enclosed inquiry slip

SPEED UP SMALL PARTS ASSEMBLY

Parts feed automatically toward front—end reaching and fumbling.

Bins taper toward front to form convenient semicircle—keep all bins within easy reach.

Stacking, locking construction for rigid set-ups, easily changed when necessary.

All-welded construction. Smooth, folded edges.

New-design, adjustable hoppers provide increased capacity and permit regulated flow of parts according to sizes and weights.

Two-sizes—tapered or straight sides.

IMMEDIATE DELIVERY

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1081 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

For more details circle NED-319 F3 on enclosed inquiry slip

THE TACHOMETER THAT REQUIRES NO MAINTENANCE

- IT'S ACCURATE
- EASY TO USE

(MEASURING 3100 RPM)

. . . AND SAFE
. . . NO CONTACT WITH MOVING PARTS

THE FRAHM® RESONANT REED TACHOMETER requires no contact with moving parts—simply touch it to the case or frame of the machine under test and read directly in rpm. No wearing parts—No oiling—Cannot overspeed.

IDEAL FOR PRODUCTION TESTING where quickness and accuracy count. Bench mounted with stimulator rods the Frahm Tachometer becomes a time and money saver for inspecting hand power tools, electric shavers and cleaners, etc. Investigate the many advantages of these unique and simple instruments. *Write for Bulletin 31-D*

9-917

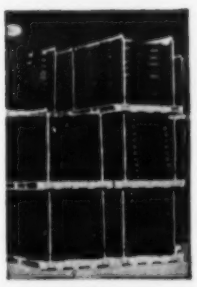
JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-320 F3 on enclosed inquiry slip

NOW make your PALLETS tiering PALLETS by adding PALTIER HARDWARE

The all purpose tiering Hardware

PALTEAM for HEAVY STORAGE



PALTEAM is a pair of tiering horses which may be assembled to any standard 3-stringer pallet. Designed for flexibility, the posts slip-fit into the socket assembly which is permanently secured to the pallet. The cross bars slip-fit over the top of the posts. Vertical openings between pallets may be changed by simply changing posts length.

CLER-DECK for MEDIUM STORAGE

CLER-DEK is designed primarily to give user full use of pallet deck. Post and cone assembly is same as the PALTIER. Can be attached to most any pallet. Slip-fit posts and self aligning cones make for quick, sure safe stacking of loads.

ECONO-MIZER for LIGHT STORAGE

Low-priced tiering hardware of high quality for use where vertical opening does not exceed 36" and loads are not over 1500 lbs. Made with the same precision and high quality materials as other PALTIER products.

SHELVING HARDWARE

This new type Shelving Hardware can be furnished for average loads and when completely assembled, provides a very stable rack. Can be set up easily or knocked down and compactly stored or moved. Shelving Hardware attached to your own pallets provides cheaper and better shelving.

FOR ADDITIONAL INFORMATION SEND FOR FREE CATALOG

Designers, Engineers, and Manufacturers of Flexible, Efficient, and Economical Storage Systems for every use and application.

THE PALTIER CORP.
1705 KENTUCKY STREET, MICHIGAN CITY, INDIANA
DISTRIBUTORS IN PRINCIPAL CITIES

For more details circle NED-321 F3 on enclosed inquiry slip

Announcing THE *NEW* WELLS Model 800 Horizontal Metal Cutting BAND SAW

Approved for use with the revolutionary *NEW* MILFORD REZISTOR HIGH SPEED STEEL BAND SAW BLADE
Designed for production cut-off work particularly for cutting stainless steel

THE NEW WELLS MODEL 800 is the first metal cutting band saw designed to capitalize on the remarkable advantages, and to be approved for use with the new *Milford Rezistor* High Speed Steel Band Saw Blade.

Model 800, engineered for heavy duty work, provides for practical and efficient use of blades of 1" in width, especially the new High Speed Steel Band Saw Blade. This blade, used with Wells Model 800, has established new records . . . higher level of cutting efficiency . . . more cuts per blade.

Wells Manufacturing Corporation will be glad to study your metal cutting jobs to determine which blade, when used with Model 800, will show you cost savings

Products by Wells are Practical

Wells **METAL CUTTING BAND SAWS**

WELLS MANUFACTURING CORPORATION
1319 HARDING ST., THREE RIVERS, MICHIGAN

▲ For more details circle NED-322 F3 on enclosed inquiry slip ▲

NEW SPEED

3 SIZES

for OVER-UNDER WEIGHING with TOLEDO SPEEDWEIGH®

Here's *new speed with accuracy* for you in check weighing, packaging, many other operations today . . . 3 sizes —to 5 lb., to 20 lb., to 50 lb.! Shadowfree wide-angle reading . . . accurate to 1/64 of an ounce . . . new improved knife-edge check link system . . . *exclusive* "coined" bearings for greater accuracy, longer life . . . stainless steel beam . . . enclosed levers in one-piece housing . . . choice of platters and scoops . . . many more *plus* features! Write for bulletin 1416. Toledo Scale Company, Toledo 1, Ohio.

TOLEDO® *Headquarters for* **SCALES**

▲ For more details circle NED-323 F3 on enclosed inquiry slip ▲

GOOD NEWS ABOUT WHEELS

NEWS! About how 44 centers and only 22 bearings give a choice of 144 sizes to 12" x 4".

NEWS! About American Steelite® light-weight champs—weighing up to 9 pounds less than ordinary wheels.

NEWS! About American Tread-Lock method—the tread is *Rolled On So It Won't Roll Off!*

NOW! Get all this NEWS in the NEW bulletin on American Industrial Wheels, from:

THE AMERICAN PULLEY COMPANY, Phila., Pa.

THE AMERICAN PULLEY COMPANY
4294 WISSAHICKON AVE., PHILA. 29, PA.
Gentlemen:
I want the NEWS about Wheels—rush me your new American Steelite® Wheel Bulletin.
Name_____
Firm Name_____
Address_____
City_____ Zone____ State____

▲ For more details circle NED-324 F3 on enclosed inquiry slip ▲

DRILL PRESS SPEED CHANGER fits any 17 to 20-in. drill press

Designed to fit any 17 to 20-in. drill press, the Vari-speed Changer enables operator to change speed simply by releasing toggle action lever and slipping belt to proper pulley step. Unit allows for speed changes from 125 to 4000 rpm with a 1725-rpm motor. Made of heavy cast iron, it is shipped in one unit and uses the belt supplied with the drill press. It does not interfere with belt guard and is shipped with pulleys and second belt. Made by **Boyd Machine, Inc.**, 705 E. Fourth St., Royal Oak, Mich.

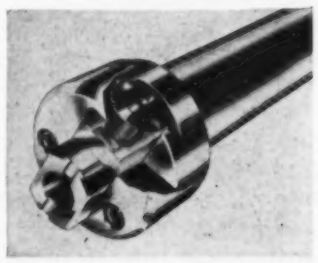
▲ For more details circle NED-325 F3 on enclosed inquiry slip ▲

HYDRAULIC POWER UNIT pumps 0.8 to 2.8 gpm at 1200 psi

Steel welded reservoir and Nitraloy gear pump in high strength aluminum alloy case are featured by this hydraulic pumping unit available with or without motor. Unit is completely piped with relief valve, check valve, reservoir filter and air breather filter. Pressures range up to 1200 psi, and capacities from 0.8 to 2.8 gpm. Made by **Hackett Brothers, Inc.**, Dept. 148, 200 W. Main St., North Manchester, Ind.

▲ For more details circle NED-326 F3 on enclosed inquiry slip ▲

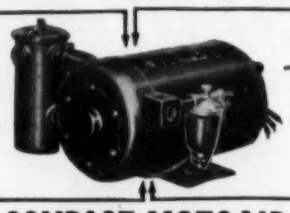
OFFSET BORING CHUCK for boring, drilling and milling



Positive dead-centering of the Samson heavy duty offset chuck eliminates need for chuck removal, and gives high accuracy while speeding tool changes. Micrometer dial makes possible accurate offset adjustment and resetting for duplicate operations. The unit is available with any shank or adaptor for holding boring bars, drills, end mills and similar tools, together with a set of accessories. Construction is steel, with a one-piece body and shank for maximum rigidity in heavy duty operations. Made by **Last Word Sales Co.**, 18502 Mt. Elliott, Detroit 34, Mich.

▲ For more details circle NED-327 F3 on enclosed inquiry slip ▲

822

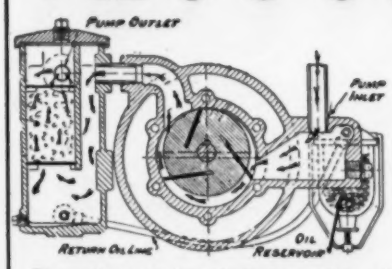


THIS PART IS YOUR ROTARY PUMP

THE MOTOR IS AN INTEGRAL PART OF THE PUMP

USE THIS COMPACT *MOTOAIR PUMP FOR* VACUUM

AVAILABLE IN SEVERAL SIZES



No other pump, so compact, provides such dependable vacuum in so little space. Less parts to wear because

NO BELTS NO GEARS

VISIBLE LUBRICATION

The unique design illustrates points which appeal to machine designers. Used for years on packaging and graphic arts equipment, web-guiding, etc.

Write for Catalog—

NEW JERSEY MACHINE *Corporation*

FACTORY SALES AND SERVICE BRANCHES
CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

▲ For more details circle NED-328 F3 on enclosed inquiry slip ▲

90 Pages of Helpful Information on STAINLESS Tubing and Pipe

The CARPENTER STAINLESS TUBING HANDBOOK is a mighty handy reference to have at your fingertips when you want quick answers to design engineering and processing problems involving stainless tubular products. It contains a wealth of easy-to-find technical data conveniently cross-indexed under 150 subjects relating to—selection and specification . . . corrosion resistance . . . heat resistance . . . heat transfer . . . general physical properties . . . sizes and gauges . . . tolerances . . . fabrication and assembly . . . special shapes . . . finishing.

IT'S YOURS FOR THE ASKING—to get your personal copy of the Carpenter Stainless Tubing Handbook promptly, just write us on your company letterhead.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.

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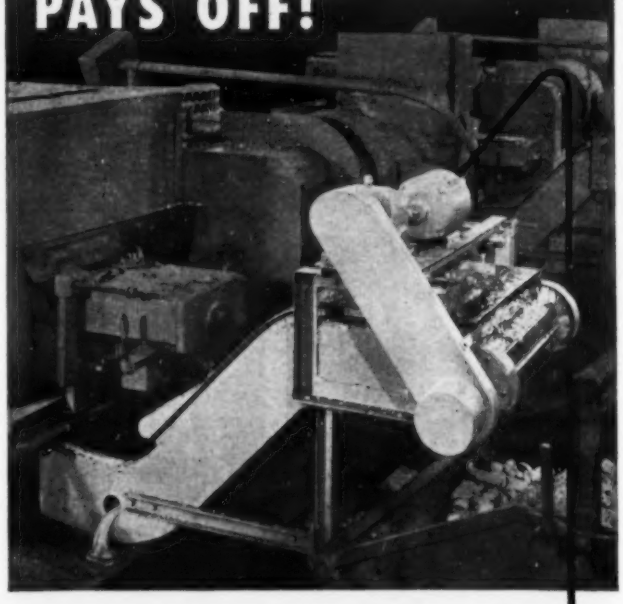
MAY-FRAN

AUTOMATIC SCRAP REMOVAL PAYS OFF!



CHIP-TOTE... ELIMINATES MACHINE DOWN-TIME AT THOMPSON PRODUCTS, INC.

Machines produce more when MAY-FRAN CHIP-TOTES permit continuous operation. CHIP-TOTE automatic scrap conveyors remove borings, turnings and chips from high-production machine tools while they are operating . . . thus eliminating shut-down for manual scrap removal.

At Thompson Products, Inc., Cleveland Plant, CHIP-TOTES speed production by continuously conveying the large volume of chips generated by Sundstrand automatic lathes from machine to tote boxes. Operating speed of the CHIP-TOTES is synchronized with metal removing capacity of lathes to assure steady jam-free flow of scrap. In addition, the CHIP-TOTES provide for drainage and return of coolant.

Write today for the new CHIP-TOTE Bulletin MF-640

1106-MF

MAY-FRAN ENGINEERING, INC.

1711 CLARKSTONE ROAD • CLEVELAND 12, OHIO

▲ For more details circle NED-330 F3 on enclosed inquiry slip ▲

ENGINEERS
Here's Help!

If you are:
- Recording
- Controlling
- Measuring

Temperature and/or Pressure

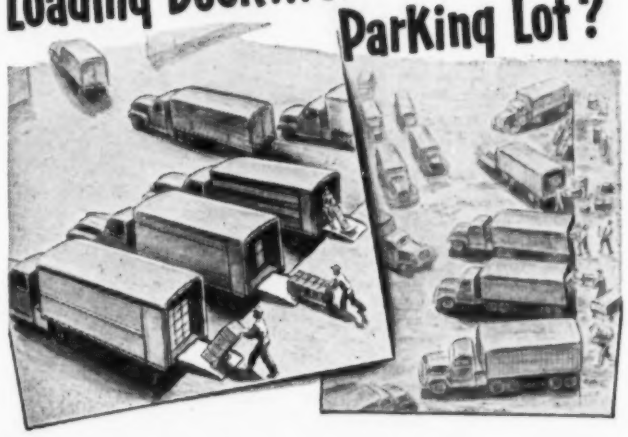
These four big catalogs will help you to select the right Gotham Instrument for your application. They are yours for the asking. Just write today on your business letterhead. Our engineers will be happy to help you solve special instrumentation problems without obligation.

GOTHAM *Keep Everything Under Control With Gotham* INSTRUMENTS

Division of American Machine and Metals, Inc.
Dept. 1, 233 Broadway, New York 12, N.Y.

For more details circle NED-331 F3 on enclosed inquiry slip

Loading Dock...or Parking Lot?



...one of Magliner's 34 Standard Dock Boards will load Your Trucks

FASTER...SAFER...AT LOWER COST!

Magliner standard magnesium dock boards insure swift in-and-out truck movement... prevent valuable loading areas from becoming costly parking space! Magliner's 34 load-engineered standard models provide a low-cost link between truck and dock for virtually all truck docks... eliminate the need for expensive, custom-made equipment. Get smooth, rapid material flow from carrier to plant... keep trucks on the move! Gain substantial reductions in loading and unloading costs! Equip your truck docks with *magnesium*-light, *magnesium*-strong Magliner standard dock boards! Write today for bulletin DB-203.

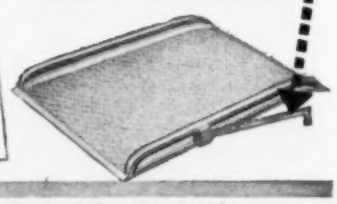
Magliner STANDARD
MAGNESIUM DOCK BOARDS

Light! Strong! Safe!

Adjustable To Varying Heights and Spans

WRITE FOR BULLETIN DB-203!

Exclusive
AUTOMATIC DROP LOCK
(pat. applied for)
- Positive Lock Prevents Slippage
- Quickly... Easily Adjustable

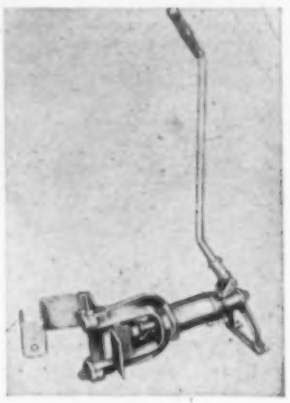


Custom-Engineered Dock Boards Also Available — Write For Information

MAGLINE INC. • P.O. BOX 396 • PINCONNING, MICHIGAN

For more details circle NED-332 F3 on enclosed inquiry slip

BUS BAR BENDER
portable unit hydraulically powered

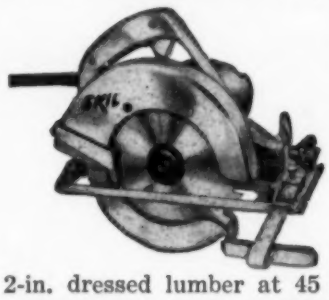


For bending switchboard or generating station bus bars, this portable bender weighs 30-lb, generates 10,000 psi hydraulic pressure with a manual handle and will bend metal up to 4 x 3/8-in. The unit rests solidly on any surface and may be bolted down if required. Handle folds in towards body for carrying. Made by **H. K. Porter, Inc.**, 75 Foley St., Somerville 43, Mass.

For more details circle NED-333 F3 on enclosed inquiry slip

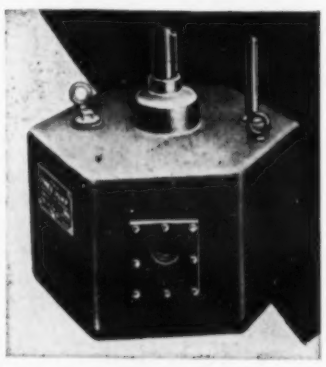
PORTABLE ELECTRIC SAW
7¼-in. model for one-hand use

Featured in model 687 heavy duty 7¼-in. portable electric saw are universal motor, ball and needle roller bearing construction, overhead handle for one-hand control, built-in rip fence and automatic telescoping blade guard with retracting handle. Depth of cut can be adjusted from 1/16 to 2⅜ in. and bevels can be cut up to 45 degrees. Saw weighs 13¼ lb, can cut 2-in. dressed lumber at 45 degrees and has a speed of 5000 rpm. Made by **SKIL Corp.**, 5027 Elston Ave., Chicago 30, Ill.



For more details circle NED-334 F3 on enclosed inquiry slip

LOW VOLUME PUMP
for "problem" fluids and materials



Capable of pumping any fluid that will flow into it, the Pneu-Pump pneumatic ejector operates at high efficiency even with low volumes. It is virtually unaffected by high temperatures and will pump liquids near the boiling point. Available with choice of cast iron, lead lined, rubber lined or stoneware bodies, it is adaptable to pumping acids and other corrosive liquids. The pump is powered either by existing or auxiliary air supply, or by steam supply. Outputs of the four models in the 30-ft head range are 5 to 60 gpm. Made by **Yeomans Brothers Co.**, 2000-4 N. Ruby St., Melrose Park, Ill.

For more details circle NED-335 F3 on enclosed inquiry slip

When Jobs Reach *PROCESS ENGINEERING*...call FEDERAL for *GAGE ENGINEERING!*

WHEN YOU START TO PROCESS YOUR JOBS, that's the time to take advantage of our long experience in designing dimensional visual gages.—At Federal we know the basic difference between designing precision gages and other mechanical products.

Model 325B-57

THICKNESS, WIDTH and TAPER checked simultaneously. Tolerance lights show if a dimension is incorrect.

Designing precision gages requires knowledge of how to *magnify* and *transfer* measurement variations *precisely*, without *loss* of motion—with minimum *friction* and *inertia*—and a hundred other details which don't ordinarily concern tool and machine designers.

Whether it's an Air or Automatic Gage or a Dial Indicator type, there is every reason you should get better gages if Federal designs and builds them for you. Federal Products Corp., 1176 Eddy St., Providence 1, R. I.

FEDERAL
Largest manufacturer of indicating type gages... exclusively

For more details circle NED-336 F3 on enclosed inquiry slip

Make mine "TORKFLASH"

The tension wrench that's permanently accurate!

Fool-proof "Torkflash" eliminates dangerous guess work. A flash of light instantly signals the right tension. You rapidly tighten bolts to proper torque, preventing distortion and breakage on threaded parts.

"Torkflash" remains permanently accurate because it measures deflection of its steel spring shaft directly. No delicate parts to fail. It's a *must* for any tool crib! Sold by leading supply houses. Write for catalog W-101, Blackhawk Mfg. Co., Dept. T1463, Milwaukee 1, Wis.

Reading is pre-set. Pointer is positioned on required dial reading.

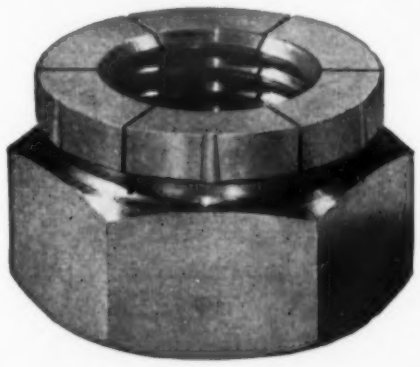
Select the required torque by turning tension scales.

"Torkflash" carries the famous Blackhawk Service Proved seal.

BLACKHAWK

For more details circle NED-337 F3 on enclosed inquiry slip

they're ONE piece, ALL metal...



no parts to work loose or get lost

Because they are one piece—nothing to assemble, come apart, lose or forget—FLEXLOC locknuts save production time. Because they are all metal, they lock and stay tight at higher temperatures. See your local industrial distributor for literature and samples or write SPS, Jenkintown 24, Pa.

Our Fifteenth Year: A START FOR THE FUTURE

FLEXLOC LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-338 F3 on enclosed inquiry slip

WANT A BETTER CHAIN?
FOR DRIVES
FOR CONVEYORS

This new booklet presents the complete story of the new Rex R, RX and RR series Chabelco® Drive and Conveyor Chains. It explains how these improved chains can give *you* more for your chain dollar. Send for your copy of Bulletin 53-59 today!

REX® CHAIN BELT COMPANY OF MILWAUKEE

CHAIN BELT COMPANY 53-108
4686 W. Greenfield Ave.
Milwaukee 1, Wis.
Gentlemen:
Please send me Bulletin 53-59.
Name.....
Company.....Dept.....
Address.....
City.....State.....

For more details circle NED-339 F3 on enclosed inquiry slip

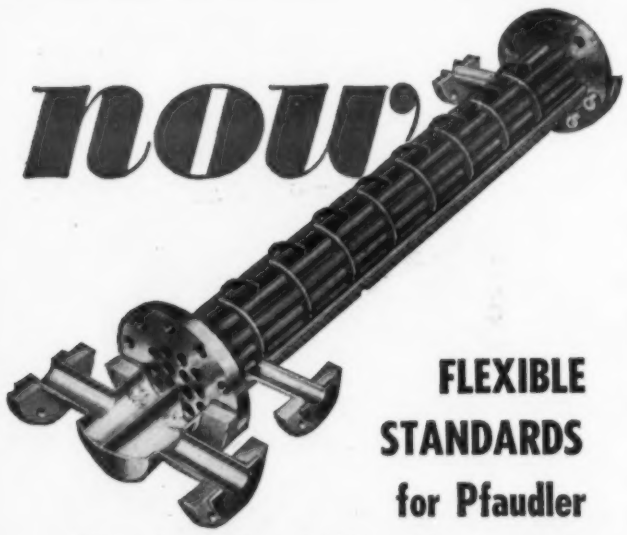
IT'S A CINCH!
TO
SHARPEN SMALL DRILLS

Black Diamond
PRECISION
DRILL GRINDER

- ✓ ONLY drill grinder that mechanically positions drill for grinding!
- ✓ ONLY drill grinder that grinds BOTH LIPS IN ONE OPERATION!
- ✓ ANYONE can grind a drill expertly on a Black Diamond No guesswork—just position the drill, grind and you have a perfect point!

BLACK DIAMOND SAW AND MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

▲ For more details circle NED-340 F3 on enclosed inquiry slip ▲



now
FLEXIBLE STANDARDS for Pfaudler
Stainless Steel Heat Exchangers

Design features previously associated only with custom-built heat exchangers are now available at competitive standard cost under Pfaudler's new system of flexible standards.

For a given heat transfer area, you may select the most applicable combination of length and diameter. Further, nozzles can be of any size and in any position and can be either threaded or flanged.

RAPID DELIVERY—With our new production line methods, flexible standard units can be delievered in 4 to 12 weeks after the receipt of your order.

COMPLETE LINE—The flexible standard program applies to fixed tube sheet, single or multi-pass, tube and/or shell side stainless steel units in diameters up to 10". In addition, Pfaudler heat exchangers are available with shell diameters from 4" to 24" in four basic types of construction . . . fixed tube sheet condenser, outside packed floating head design with removable tube bundle and shell, "U" tube construction with removable bundle.

GET THIS PFAUDLER DATA BOOK—This 40-page fact-packed heat exchanger manual contains all the data you need to work out capacity and type problems. Easy-to-follow tables, curves and charts. Full details on Pfaudler heat exchangers. Mail the coupon for your copy.

Pfaudler
Engineers and fabricators of corrosion resistant process equipment since 1884

GLASSED STEEL • HASTELLOY • ALUMINUM • CARBON STEEL • SOLID OR CLAD STAINLESS STEEL • NICKEL • INCONEL • MONEL

THE PFAUDLER CO., Dept. NED-6, Rochester 3, N. Y.
Please send me the Pfaudler Heat Exchanger Manual No. 837

Name .....
Title .....
Company .....
Address .....
City ..... Zone ..... State .....

▲ For more details circle NED-341 F3 on enclosed inquiry slip ▲

BENCH TYPE HOSE REEL
mounts on benches, machine tools

Benches, walls, ceilings, posts, floors or machine tools provide surfaces upon which this Croft hose reel can be mounted. Reel is designed for ¼, ⅜ and ½-in. hose up to 12 ft in length handling air, water, oil or any fluid under normal pressure. It is fabricated of heavy gage steel and has corrosion resistant brass and cast iron swing joints. Springs are protected by free wheeling device, and four O-rings seal the joints. Other models include standard and heavy duty shielded and open types and single or double pit models. Made by **William Turk Co.**, 11072 S. Alameda Ave., Lynwood, Calif.

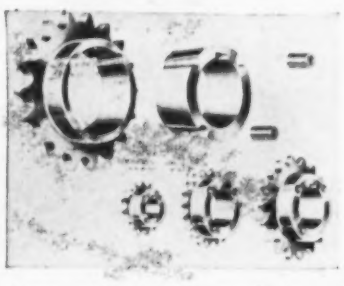
▲ For more details circle NED-342 F3 on enclosed inquiry slip ▲

PORTABLE FANS
in complete size range

A complete new line of portable fans in 16, 20 and 24-in. sizes has recently been announced. Improvements in a line of window fans include removable screen, wider adjustment range, carrying handle and recessed switch buttons. By **Baldor Electric Co.**, 4353 Duncan Ave., St. Louis 10, Mo.

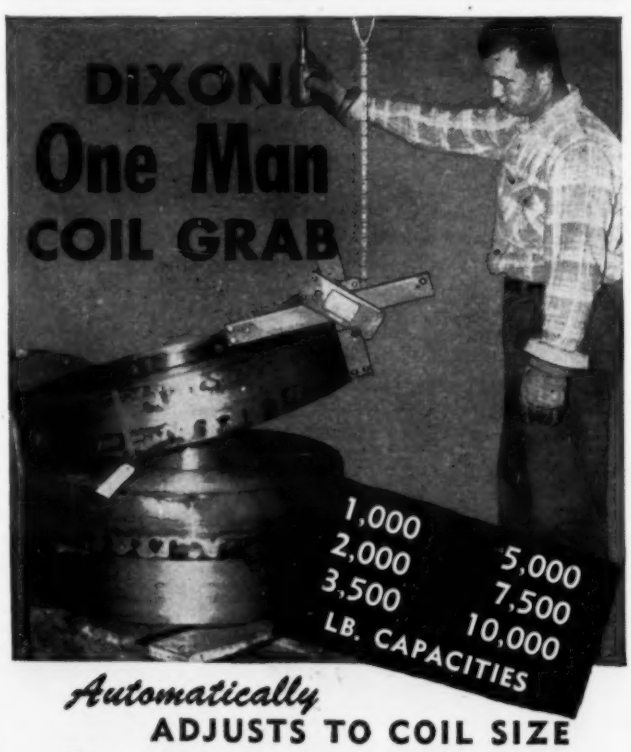
▲ For more details circle NED-343 F3 on enclosed inquiry slip ▲

ROLLER CHAIN SPROCKETS
fits chain sizes 40 through 100



Keyed to shafts for easy, quick installation and removal, Taper-Lock roller chain sprockets grip shaft with firmness of a shrink fit. Sprockets have no flanges or protruding parts and require no more space than standard sprockets. They fit any American Standards chain, No. 40 through 100. Complete range of type B (hub one side) is available in ½, ⅝, ¾, 1 and 1¼-in. pitch. Number of teeth ranges as high as 112. Bushings and the smaller sprockets are individually packaged. Made by **Morse Chain Co.**, Dept. ND, 7601 Central Ave., Detroit 10, Mich.

▲ For more details circle NED-344 F3 on enclosed inquiry slip ▲



Automatically
ADJUSTS TO COIL SIZE

Seven standard models available to handle coils from 1" to 48" wide.

Export Dept.: 306 W. Washington Blvd., Chicago 6, Ill.

DIXON *Automatic Tool, Inc.*
2310 23rd Ave. • ROCKFORD, ILLINOIS

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modernize materials handling with

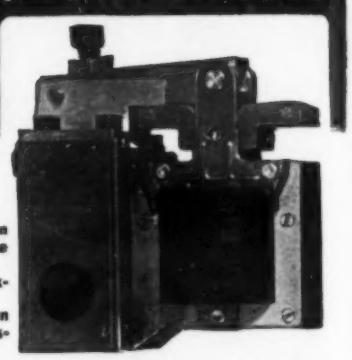
CARGOTAINERS

Cargotainers are designed to keep pace with modern methods of materials-handling because they are: 1. Sturdy and resistant to shock; 2. Readily folded when not in use; 3. Open mesh so that contents may easily be seen for quick inventory; 4. Efficiently designed for shipment, assembly line use, and vertical storage. Write for information concerning the new CLEARVIEW model with its exclusive base construction for greater durability and better locking and stacking. Dept. NED, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh Steel Products Company
A Subsidiary of Pittsburgh Steel Company

▲ For more details circle NED-346 F3 on enclosed inquiry slip ▲

NEW HIGH PRESSURE
SOLENOID VALVES
Features



- Rugged compact construction
- 3000 P.S.I. operating pressure
- Continuous duty
- Poppet design eliminates leakage
- May be mounted in any position
- Impregnated coils resist moisture and condensation

Now available in 110-220 volt 60 Cycle A.C. Current

Waterman High Pressure Solenoid Valves are inexpensive, compact units designed for continuous duty in hydraulic systems where pressures are as high as 3000 P.S.I. Poppet type construction gives positive sealing against internal leakage. Impregnated oil resistant coils make these valves suitable for mounting in oil reservoirs. In many cases this feature eliminates costly piping and makes possible the construction of smaller, more compact hydraulic power units. Available in ⅜" and ¾" pipe size.

Write for illustrated circular H

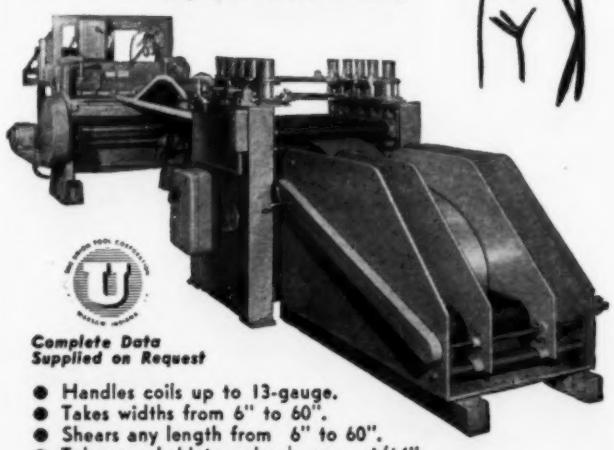
WATERMAN ENGINEERING Company
725 CUSTER AVENUE
EVANSTON, ILLINOIS

▲ For more details circle NED-347 F3 on enclosed inquiry slip ▲

WITH ONLY ONE OPERATOR
THIS **UNION MACHINE**

- DE-COILS
- LEVELS
- SHEARS
- STACKS

CUTS LABOR COSTS
AUTOMATICALLY
CUTS MATERIAL COSTS
Buy in coils and cut sheet lengths as needed. No delay.



Complete Data Supplied on Request

- Handles coils up to 13-gauge.
- Takes widths from 6" to 60".
- Shears any length from 6" to 60".
- Tolerance held to only + or — 1/64".
- Only one adjustment to change lengths.
- Speeds to 150 l.f.p.m. depending on lengths cut.
- Neatly stacks sheared pieces automatically.
- Will handle steel, aluminum, etc.

UNION TOOL CORP.
318 E. MARKET ST., WARSAW, IND., U. S. A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

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1ST IN METAL TOOL BOXES

CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition. Write for FREE book, including complete information.

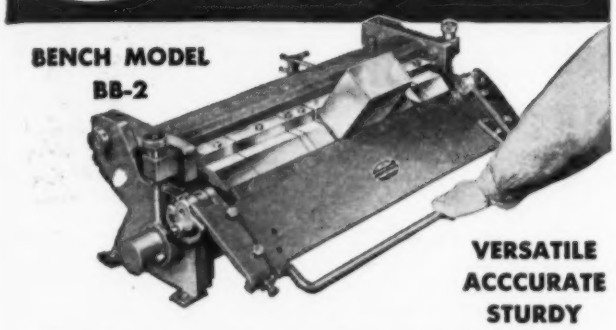
WATERLOO METAL BOXES AND CHESTS

Waterloo VALVE SPRING COMPRESSOR CO. WATERLOO, IOWA

▲ For more details circle NED-349 F3 on enclosed inquiry slip ▲

Bending Sheet Metal

CHICAGO UNIVERSAL BOX and PAN BENDING BRAKE



This CHICAGO hand bending brake is ideal for bending sheet metal up to 18 gauge and 24" wide. Model and experimental shops, production departments find this machine unmatched for single pieces or production runs in folding, box and pan work, and a limitless variety of straight bending operations. Very little experience is required to do accurate and fast work.

Write for full particulars

Steel Bending Brakes for over 50 Years

4424

DREIS & KRUMP MANUFACTURING COMPANY CHICAGO

7436 S. Loomis Blvd., Chicago 36, Ill.

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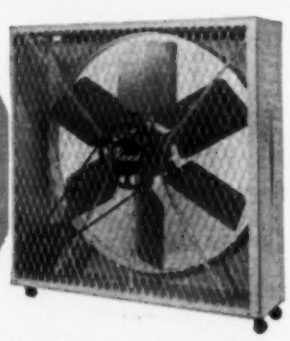
SPOT COOLING WHEN & WHERE YOU WANT IT



Reed PORT-O-VENT

PORTABLE AIR CIRCULATOR

Cat. No.	Air Cap. CFM*	Blade RPM	Motor #	Case Dimensions	Fan Weight
RUF-36 POV	9,250	350	1/3 hp	42"x42"x14½"	169 Lbs.
RUF-42 POV	11,000	354	1/3 hp	48"x48"x14½"	194 Lbs.

Certified Air Deliveries #115v.-60cy., single-phase. Other type motors on special order.

Rugged, mobile man-cooler that puts plenty of air where it's needed. All-welded steel, swivel casters, heavy wire guards both sides, reversible, overload-protected motors. Powerful, six-blade construction, super-quiet.

Reed UNIT-FANS, INC.

1001 SAINT CHARLES ST., NEW ORLEANS, U. S. A.

WRITE FOR DETAILS TODAY

▲ For more details circle NED-351 F3 on enclosed inquiry slip ▲

MAGNETIC BASE LAMP
adjusts to direct light on work

Equipped with Alnico permanent magnet base having 50-lb pull, model 675 Erick Magna-Holder floodlight consists of heavy duty lamp socket, reflector, extension rod and oil resistant 6-ft cord and plug. Lamp mounts and holds firmly on any round, flat or angle ferrous surface. Ball socket permits adjustment in any direction and screw locks it in position. Price is $8.50. Made by **Cullen Mfg. Co.,** 1316 Clark St., Racine 1, Wis.

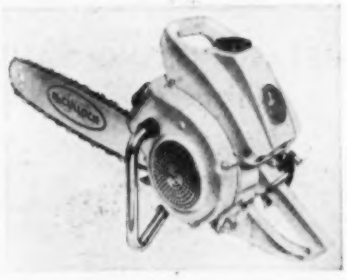
▲ For more details circle NED-352 F3 on enclosed inquiry slip ▲

LATHE ADJUSTER
permits micrometer slide settings

Adaptable to Atlas, Sheldon, South Bend and Logan lathes, this Microturn permits machining to tolerances within 0.0002-in. Attachment is coupled with normal slide feed screw. It provides 80-pitch threads so that eight full turns advance slide 0.1-in., while single turn of standard feed screw gives same travel. Micrometer type dial permits settings to 0.0001-in. Made by **L. G. Arpin Co.,** Dept. D, 261 Hurlbut St., Orange, N. J.

▲ For more details circle NED-353 F3 on enclosed inquiry slip ▲

LIGHTWEIGHT CHAIN SAW
full power operation in any position

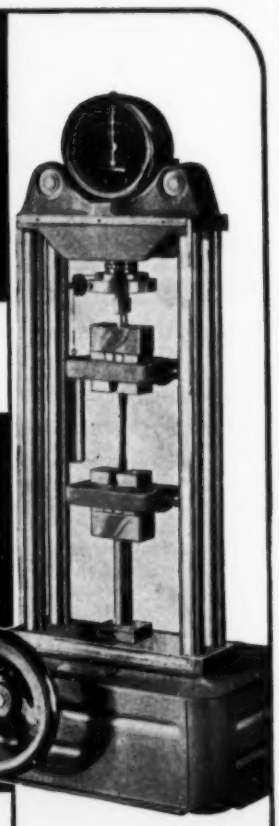


High-pressure die-cast model 4-30 one-man chain saw weighs only 30 lb, but has ample power for rapidly cutting through timbers with up to 5-ft diameters. Unit contains complete gear reduction system, automatic clutch, automatic-rewind cable starter, chain oiler, and solid steel blade and cutting chain. Principal alloy used is magnesium, with aluminum chosen for cylinder for high heat dissipation. Aircraft-type carburetor allows full-power operation in any position without adjustment. Unit can take blades from 14 to 36 in. long, and 15-in. bow attachment is available for cutting pulp. Made by **McCulloch Motors Corp.,** Dept. NED, 6101 W. Century Blvd., Los Angeles 45, Calif.

▲ For more details circle NED-354 F3 on enclosed inquiry slip ▲

DILLON *Universal* TESTER

Motorized or Hand Operated



Engineering skill at its highest! COMPRESSION-TENSILE-TRANSVERSE and SHEAR testing combined in one portable instrument.

7 different gauges available—all interchangeable! Capacities from 250 up to 10,000 lbs. Dillon Universal Tester handles rounds, flats or special shapes and—for split accuracy—is calibrated with Proving Ring certified by U. S. Bureau of Standards. Has maximum hand, self-aligning grips, ball bearings. America's most popular low-priced tester! Write for illustrated bulletin.

W.C. DILLON & CO., INC.

14620 NE Keswick St.
Van Nuys (Suburb of Los Angeles)
Calif.

Write for Illustrated Bulletins

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First in stainless steel fastenings

INDUSTRIAL EQUIPMENT manufacturers count on Anti-Corrosive for fast, dependable service on all types of stainless steel fastenings. They know that our IN STOCK inventory of more than 8,000 items and sizes is the largest, most complete, in the industry. In addition, our production capacity is geared to produce large or small quantities of stainless fastenings, of every size and description, faster and more economically!

Write for Catalog 53T today.

ANTI-CORROSIVE METAL PRODUCTS CO., INC.

Castleton-on-Hudson New York

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LIKE AN ATOM-IC EXPLOSION

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately 95,000 gallons of water yearly—costing:*

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gallons costs approximately:

$88.81 if coal (9879 lbs.) †
$91.02 if oil (792 gals.) †
$84.41 if gas (84,411 cu. ft.) †

Above figures authenticated by Hackensack Water Co.* and American Gas Association.†

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with 'SEXAUER' "Easy-Tites" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.

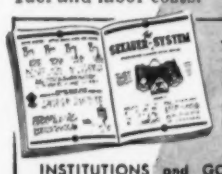
"EASY-TITE" Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300° F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.



THE NEW 'SEXAUER' CATALOG,

Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. Send for your copy today!

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring him and your NEW Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. AU-63,
2503-05 Third Avenue, New York 51.

as advertised in THE SATURDAY EVENING POST

SEXAUER

WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

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Everything IN CARBON ...BUT DIAMONDS

Dozens of standard items—hundreds of specials. Write for details on any type.

Anodes • Battery carbons
Brushes for all kinds of rotating electrical equipment
Carbon and Graphite contacts
Chemical carbons
Clutch rings
Molds and dies
Resistance welding and brazing tips
Seal rings *(for gas or liquid)*
Trolley and pantograph shoes
Voltage regulation discs
Welding carbons, plates and paste . . . and many more

STACKPOLE
STACKPOLE CARBON CO.
St. Marys, Penna.

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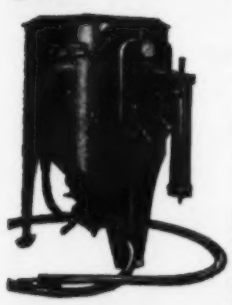
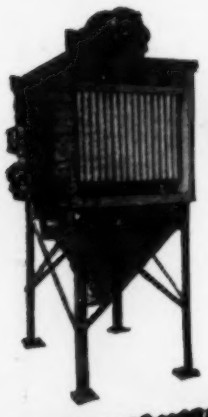
Here's how Pangborn
Solves these Problems
with this modern equipment

BLAST CLEANING!



Blast Cleaning Cabinet quickly and easily cleans metal parts of rust, grime, dirt, paint, etc. Produces a clean, smooth surface on pieces up to 60" x 36". Models available from $319.00 and up.

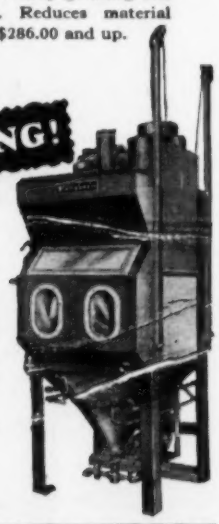
Blast Cleaning Machine not only removes rust, dirt, scale, etc., but is ideal for maintenance and many other uses. Cleans large objects such as bridges, structural work, tanks before painting. Six sizes, portable or stationary, from $187.00 and up.



DUST COLLECTING!

Unit Dust Collector stops dust at its source, minimizes machine wear and tear, reduces housekeeping and general maintenance costs. Solves many grinding and polishing nuisances. Reduces material losses. Models from $286.00 and up.

PRECISION FINISHING!



Hydro-Finish Cabinet uses liquid blast, eliminating dust, and reduces costly hand polishing, cleaning and finishing of molds, dies, tools, etc. Removes scale, discoloration and directional grinding lines, prepares surfaces for plating and coating. Holds tolerances to .0001". Models from $1410.00 and up.

LOOK TO PANGBORN FOR THE LATEST DEVELOPMENTS IN BLAST CLEANING AND DUST CONTROL EQUIPMENT

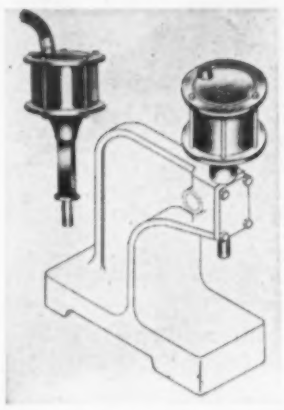
Pangborn
MAIL COUPON for full details

(Check for more information)
☐ Blast Cleaning Cabinets
☐ Blast Cleaning Machines
☐ Unit Dust Collectors
☐ Hydro-Finish Cabinets

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me more information on the equipment I've checked at the left.
Name .....
Company .....
Address .....
City ..... Zone .... State .....

▲ For more details circle NED-359 F3 on enclosed inquiry slip ▲

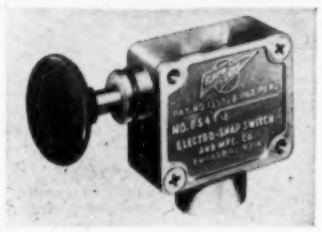
AIR CONVERSION UNIT
converts arbor press to air press



Any hand-operated arbor press can be made quickly into an air press by removing its ram and replacing it with this Paragon air conversion unit. Tools and fixtures made to fit on bed of the hand press can be used with the air unit without any changes. Complete and ready to use, units can be provided with cylinders having power factor of either 12.5 or 19.6 times that of the air line pressure. Made by **Price Machine Products**, Dept. NED, 929 W. 80th St., Los Angeles 44, Calif.

▲ For more details circle NED-360 F3 on enclosed inquiry slip ▲

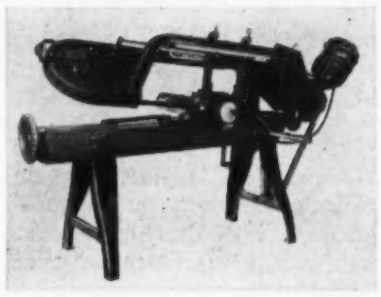
LIMIT SWITCH
safety or automatic sequencing type



Connected as an interlock switch of a punch press or substituting for a relay in automatic sequencing circuits, the ES4-J limit switch has a rating of 10 amp at 125-v ac, and is available with a single-pole, double-throw circuit arrangement. Mounting is versatile and clearance dimensions including knob actuator and conduit connector are 3⅜ x 2⅝ x 1¾ in. Contact action may either be constant or of the one-way momentary type. Made by **Electro-Snap Switch & Mfg. Co.**, 4232 W. Lake St., Chicago 24, Ill.

▲ For more details circle NED-361 F3 on enclosed inquiry slip ▲

METAL-CUTTING BAND SAW
utilizes high speed steel blade



The Milford Rezistor high speed steel blade is utilized by model 800 metal-cutting, horizontal band saw which has a diameter capacity of 8 in. Design features include heavy duty counter-balance frame and beam, band wheels which provide for use of 1-in. wide blades, a constant-load blade tensioning device and synchronized speed blade cleaning brush. Band saw can also be used effectively with standard carbon steel blade. Made by **Wells Mfg. Corp.**, 1313 Harding St., Three Rivers, Mich.

▲ For more details circle NED-362 F3 on enclosed inquiry slip ▲

For Heavy Assemblies and Severe Vibration

REGULAR TYPE PALNUT TRADEMARK LOCK NUTS

provide more advantages than any other locking method

By using an ordinary nut to carry the load—plus a PALNUT Lock Nut on top to keep it tight—you have a completely vibration-proof, rugged assembly which stays trouble-free in severest service. Widely used on automotive, electrical and heavy machinery and equipment of all types, with distinct advantages over lock washers, jam nuts, cotter pins, self-retaining nuts.

• Absolute security
• Lower cost
• Easy tightening
• Fast assembly
• May be removed and re-used

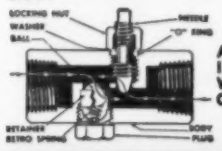
Send for Bulletin #577
Include details of assembly, bolt size, etc. for free samples.

THE PALNUT COMPANY
45 Cordier St., Irvington 11, N. J.
In Canada:
P. L. Robertson Mfg. Co., Ltd.
Milton, Ontario

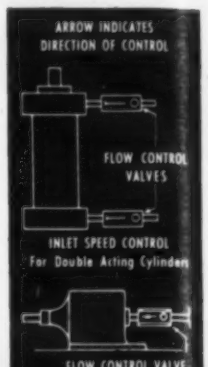
▲ For more details circle NED-363 F3 on enclosed inquiry slip ▲

Get Easier, More Accurate Cylinder Speed Control with *Pneu-Trol* VALVES IN AIR OR HYDRAULIC USE

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Improved "O" Gland structure seals and locks the fine needle setting when speed adjustments are made. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Pneu-Trol Flow Valves are available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel.



Attractive Prices — Immediate Delivery Write for Illustrated Circular and Price List.



Pneu-Trol Devices, Inc.
1432 N. Keating Ave., Chicago 51, Ill.

▲ For more details circle NED-364 F3 on enclosed inquiry slip ▲

Tough Areas call for TUFF-TEX* floors!

Tuff-Tex Greaseproof Industrial Tile completely answers the requirements of heavy-duty flooring. It's especially recommended for machine areas.

Tuff-Tex combines impact resistance with flexural strength. Metal chips, or constant rolling friction, can't hurt it. Tuff-Tex offers a wide range of rich colors and versatility of design . . . both decorative and functional.

Send today for folder, "Tuff-Tex Greaseproof Industrial Flooring" . . . or see your Tile-Tex* Contractor, listed in classified pages of phone book. Ask him about FLEXACHROME*, too.

THE TILE-TEX DIVISION, The Flintkote Company, 1234 McKinley Street, Chicago Heights, Illinois

Tile-Tex—Pioneer Division, The Flintkote Company, P. O. Box 2218 Terminal Annex, Los Angeles 54, Calif.

The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto, Canada

*Registered Trademark, The Flintkote Company

TUFF-TEX GREASEPROOF INDUSTRIAL TILE

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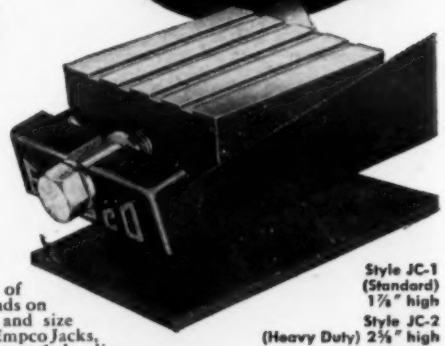
QUICK, ACCURATE MACHINE LEVELING

WITH VIBRATION ABSORBING MOUNTING PADS

- *Provides Accurate Adjustment*
- *Reduces Vibration and Noise*
- *Lower and Sturdier*
- *Self-Aligning*
- *Two-Way Control*
- *Smooth Slipways*

Empco JACK



Empco Jacks enable you to meet hurry-up demands for relocation of machinery by giving you the fastest, easiest, most accurate machine leveling ever known: you simply raise or tilt machine sufficiently to allow the Empco Jacks to be slipped under base. The number of jacks required depends on weight of machine and size of base. Once set on Empco Jacks, the entire operation of leveling and maintaining equipment level is quickly done. By applying a wrench to the "hex" head of adjusting screw, an adjustment is obtained either up or down until your level indicator reads "zero." Write for specifications and prices today.

Style JC-1 (Standard) 1⅞" high
Style JC-2 (Heavy Duty) 2⅝" high

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

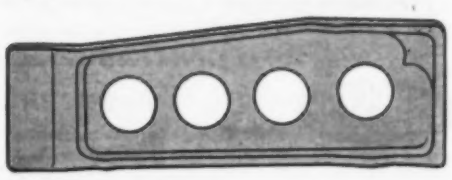
▲ For more details circle NED-366 F3 on enclosed inquiry slip ▲

MUELLER BRASS CO.

ALUMINUM FORGINGS

- STRONG AS STEEL BUT 1/3 THE WEIGHT.
- GOOD DIMENSIONAL STABILITY . . . MECHANICAL PROPERTIES RETAINED AT HIGH SPEEDS AND REASONABLE TEMPERATURES.
- REQUIRE LESS MACHINING AND FINISHING.
- FORGED TO YOUR SPECIFICATIONS.

MUELLER BRASS CO. • PORT HURON 27, MICHIGAN



102

For more details circle NED-367 F3 on enclosed inquiry slip

IT'S HERE . . . *positive power transmission —without lubrication!*

Now Available in STANDARD STOCK DRIVES

During the past six years, original equipment manufacturers have found in custom-engineered "Timing" Belt drives a means of simplifying and improving their products' design and performance. Now the *same* advantages can be applied by plant engineers to various individual drives at a cost competitive with other methods of power transmission. A wide range of Gilmer *Standard* "Timing" Belts and matching pulleys are now—or soon will be—available from local distributors' stocks.

Wherever slippage or drive lubrication presents a problem, or the saving of space or weight is important, consider these unique features of the "Timing" Belt drive:

CAN'T SLIP—Positive engagement of the "Timing" Belt's teeth with axially-cut pulley grooves assures no slippage, no creep, no power loss, precision control of speed ratio.

STRONG, LIGHT, FLEXIBLE—A single layer of continuously-wound, neoprene-encased, steel cable of high tensile strength gives the "Timing" Belt highest strength-to-weight ratio, with extreme flexibility. No stretch; no take-up. Range: 1/100 to 300 hp.

NO INITIAL TENSION—Teeth, not friction, provide the grip . . . reducing bearing loads and eliminating need for outboard bearings.

NO LUBRICATION—Absence of metal-to-metal contact eliminates need for lubricants, lubricating devices and housings. High Speeds cause no lubricating problems.

ULTRA COMPACT—Very small pulleys can be used without slippage, permitting very short centers and high ratios.

SPEED RANGE—Operates without slippage at speeds of inches per day to 15,000 rpm. Mechanical efficiency is very close to 100%.

Ask your local NYB&P Distributor for a copy of the Gilmer "Timing" Belt STANDARD DRIVE MANUAL or use the request form to obtain a copy of the Manual and location of nearest stock-carrying distributor.

NYB&P NEW YORK BELTING & PACKING CO. 1 Market St., Passaic, N. J.
America's Oldest Manufacturer of Industrial Rubber Products

For more details circle NED-368 F3 on enclosed inquiry slip

VIBRATION ISOLATOR protects delicate equipment

Shock and vibration protection during both shipment and use is afforded to delicate equipment, electronic instruments, aircraft engines and similar units by Cohrlastic DS nonlinear mounts. Small vibrations are absorbed with little or no deflection or movement of the equipment. At high loadings, the mount serves as a cushion to take the impact energy and return the equipment unharmed to its original position. It has little tendency to develop resonant frequencies and is available in a wide range of sizes from ½ to 1000-lb rated loads. Made by **Connecticut Hard Rubber Co.**, 415 East St., New Haven 9, Conn.

For more details circle NED-369 F3 on enclosed inquiry slip

BLAST CLEANING BARRELS 3 and 18 cu ft models added to line have an abrasive-tight cranked door

Added to line of airless Blastmaster Rotoblast barrels for cleaning castings and other parts are 3 and 18-cu ft capacity units designated as 3GN and 18GN. Features are the same as in other models and include the metal laminated abrasive-tight rubber-backed door which is cranked up or down like a window curtain on side edge rollers. Heavy rubber curtain between door and blasting area protects door from flying abrasive and rolls up and down with the door. Work conveyor drive has automatic torque throw-out arm protection to eliminate possibility of damage to equipment in case of jamming.

Antifriction roller bearings are located at all points where shafts must carry loads. Nonpinch work conveyor consisting of continuous hardened steel roller chain with heavy metal slats is designed so that at no time is any opening presented to pinch work or clog. During barrel operation, cleaning and reclaiming system works constantly to remove sand and debris. The 3-cu ft model is powered by one 1½-hp and two ½-hp motors, while the larger machine uses one 15-hp and two 1½-hp motors. Made by **Pangborn Corp.**, 140 Pangborn Blvd., Hagerstown, Md.

For more details circle NED-370 F3 on enclosed inquiry slip

FIREPROOF MAINTENANCE-FREE

Ruberoid Stonewall *asbestos-cement* Board is ideal for interior or exterior construction . . . cuts building costs . . . saves maintenance expense. It is fireproof, water-resistant, rot-proof, rat-proof, rust-proof . . . never needs paint. It is strong and rigid, yet bendable and easy-to-work. Can be sawed or scored and broken to size. Takes nails readily.

Use Stonewall Board for ducts, partitions, shower stalls, fire barriers, bins, exterior sheathing, arched roofs, etc. Write today for literature, cost and where to buy it. The Ruberoid Co., 500 Fifth Ave., New York 36, N. Y.

The RUBEROID Co.

ASPHALT AND ASBESTOS BUILDING MATERIALS

For more details circle NED-371 F3 on enclosed inquiry slip

Here's a bonus you can't afford to miss! LEGGE Maintenance materials give you longer wear per application.

Tests in hospitals, industrial and commercial buildings prove LEGGE Safety Polishes can be walked on thousands of miles longer. They stay on the floor up to 8 times as long as ordinary polishes—without the need for stripping and reapplying.

This dollars and cents saving amounted to $19,000 in one year for a well-known Eastern institution.

Learn how you can keep floors handsomely groomed with more mileage per gallon. And let us show you how LEGGE Maintenance reduces slip-accidents up to 98%. Write today. Walter G. LEGGE Company, Inc., Dept. ND-6, 101 Park Ave., New York 17, N. Y. Branch offices in principal cities.

YOU'RE SAFE WHEN YOU HAVE LEGGE TO STAND ON

LEGGE SYSTEM of Safety Floor Maintenance

Send for this FREE Booklet.

Certified Slip-Resistant by Underwriters' Laboratories

For more details circle NED-372 F3 on enclosed inquiry slip

AMERICA'S *FINEST* INDUSTRIAL PACKAGING LABORATORY . . .

. . . can also provide a more efficient shipping container for YOUR product

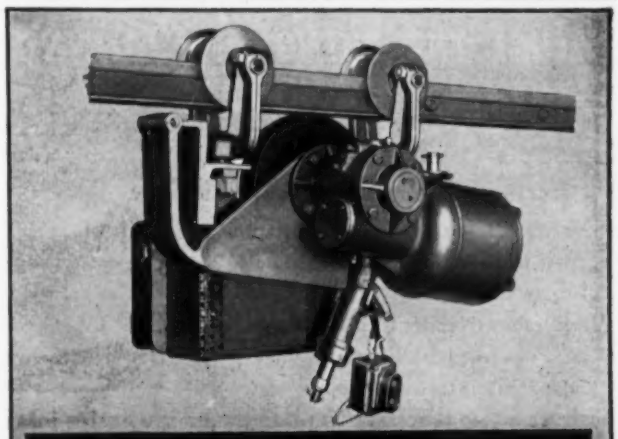
SEND FOR FREE BOOKLET

General BOX COMPANY

GENERAL OFFICES: 1859 MINER STREET DES PLAINES, ILLINOIS

DISTRICT OFFICES AND FACTORIES: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon. General Box Company of Mississippi, Meridian, Miss. Continental Box Company, Inc., Houston, Dallas.

For more details circle NED-373 F3 on enclosed inquiry slip



A NEW Light Duty MONOTRACTOR

For the propulsion of ordinary loads on standard MonoRail track—not exceeding 1-ton capacity—this MonoTractor offers the advantage of direct, right-angle motor drive through a 2½" x 8" rubber wheel. This unit is being produced in quantity with standard specifications covering push-button control for either the drive unit alone or combined with electric hoist operation.

SEND FOR BULLETIN AD-1

THE AMERICAN MONORAIL COMPANY

13116 Athens Avenue • Cleveland 7, Ohio

For more details circle NED-374 F3 on enclosed inquiry slip

What! No Ice Cubes?

This situation would be enough to drive anybody to drink—water, that is. Yet it shows, in dramatic fashion, how important fasteners are to refrigerators.

Of course, this will never really happen to any modern refrigerator, thanks to the constant fastener research carried on by Lamson & Sessions in cooperation with leading appliance manufacturers.

But there *is* a moral to this story: When you select fasteners for any product, it will pay you to consult Lamson *first*. If the answer isn't already in our files, our years of experience in helping manufacturers select the "just right" fastener for their products, can be of immeasurable value to you.

The LAMSON & SESSIONS Co.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND AND KENT, OHIO • BIRMINGHAM • CHICAGO

▲ For more details circle NED-375 F3 on enclosed inquiry slip ▲

Leaking Air is an expensive luxury

If you can't afford it, HILLS-McCANNA *Saunders Patent* **diaphragm valves will put an end to it!**

WRITE FOR LITERATURE

HILLS-McCANNA
Saunders Patent
diaphragm valves
HILLS-McCANNA COMPANY, 2455 Nelson Ave., Chicago 18, Ill.

▲ For more details circle NED-376 F3 on enclosed inquiry slip ▲

JUST THE THING FOR JOINING THIN GAUGE METALS ...EASY-FLO 45

With its low working temperature of 1145°F, EASY-FLO 45 brazes thin metals without damage from overheating—and with big savings in heating costs. Also, this extremely free flowing silver alloy penetrates into and over the entire joint area—assuring high strength liquid-and-gas-tight joints—joints so clean they seldom need finishing.

This directional coupler is made by brazing rectangular brass tubing and attaching flanges with EASY-FLO 45 1/16" wire. The clean joints facilitate finishing with baked gray enamel.

GET FULL EASY-FLO DETAILS IN BULLETIN 20
Write for a free copy today.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.
Distributors in Principal Cities. In Canada: Handy & Harman of Canada Ltd., Toronto

▲ For more details circle NED-377 F3 on enclosed inquiry slip ▲

EXPLOSION VENTING LATCH
for use on oven venting doors

Approved by Factory Mutual Laboratories for service as explosion venting latches, No. 930X latches are usable on ovens and test chambers where substantial internal pressure is built up. They are set to release at specific pressure point to permit the explosion venting door to open and thereby vent gases or other noxious fumes which might be hazardous. Made by **Kason Hardware Corp.**, 129 Wallabout St., Brooklyn 6, N. Y.

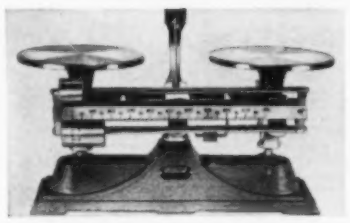
▲ For more details circle NED-378 F3 on enclosed inquiry slip ▲

WATER SYSTEM STABILIZER
prevents corrosion, scale and rust

Years can be added to the life of water heaters and water lines with incorporation of the CS-1 Clearstream feeder into the water system. Developed for use just ahead of water heater or on entire water supply, unit requires only 2½ in. space in ¾-in. pipe for installation. Transparent unit holds 1 lb of stabilizer which will treat up to 10,000 gal of average water. Only finger tip pressure is required to open top for refill. Feeder in made with Reynolds flow control valve and has positive syphon feed with graduated air cushion feed indicator. Stabilizer prevents corrosion, scale, rust, stains and iron deposits. Made by **Reynolds-Shaffer Co.**, 12100 Cloverdale Ave., Detroit 4, Mich.

▲ For more details circle NED-379 F3 on enclosed inquiry slip ▲

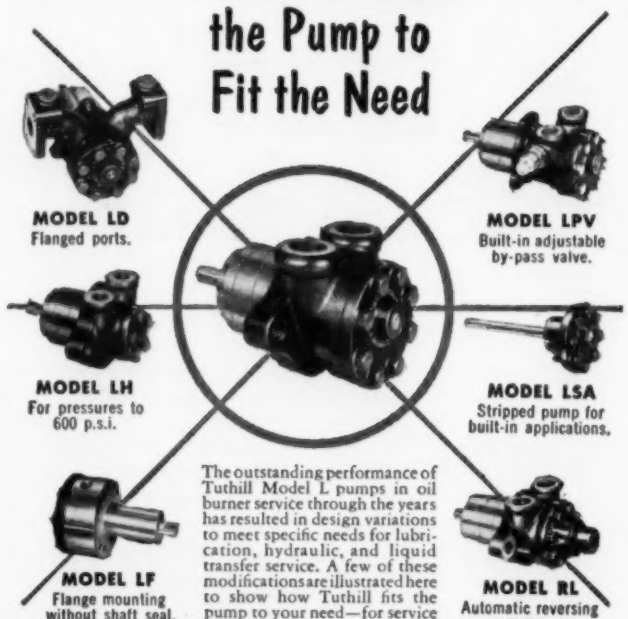
PRECISION BALANCE
micrometer poise has wide range



Micrometer poise enables this balance to be used for a range from 0.5 to 1000 grams without additional weights. The poise is designed to slide along the beam for rapid traverse and rotated for final positioning. Poise barrel is calibrated in 0.5-gram increments which subdivide the 10-gram beam divisions. Capacity of the balance is 5000 grams, sensitivity 0.5-gram, and it has an undivided tare beam of 1 lb capacity. It can be furnished with stainless steel plates, nickel plated brass pans, or a seamless brass scoop and stainless steel weighing platform. Made by **Ohaus Scale Corp.**, Dept. N, 1050 Commerce Ave., Union, N. J.

▲ For more details circle NED-380 F3 on enclosed inquiry slip ▲

Here's How TUTHILL Builds the Pump to Fit the Need



The outstanding performance of Tuthill Model L pumps in oil burner service through the years has resulted in design variations to meet specific needs for lubrication, hydraulic, and liquid transfer service. A few of these modifications are illustrated here to show how Tuthill fits the pump to your need—for service from ½ to 6 g.p.m. and pressures to 600 p.s.i.

Write for Catalog No. 101 for complete details

TUTHILL PUMP COMPANY
939 East 95th Street, Chicago 19, Illinois
Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd. Ingersoll, Ontario, Canada

▲ For more details circle NED-381 F3 on enclosed inquiry slip ▲

For more efficient . . . LIQUID HANDLING

USE... BOWSER XACTO...
the world's most widely used meter!

If you measure liquids, you need Bowser XACTO meters. Many hundreds of users — handling hundreds of different liquids — have found it to be the easiest, most efficient, accurate and dependable method of control they have ever used. XACTO can do the same for you!

Push-button operation delivers predetermined quantities . . . eliminates guesswork . . . will even print a delivery ticket when desired.

Write TODAY for full facts on XACTO!

BOWSER, INC.
1381 Creighton Ave., Fort Wayne 2, Ind.

REGIONAL OFFICES: ATLANTA • CLEVELAND • DALLAS FORT WAYNE • KANSAS CITY • NEW YORK • SAN FRANCISCO • WASHINGTON, D. C. • HAMILTON, ONT.

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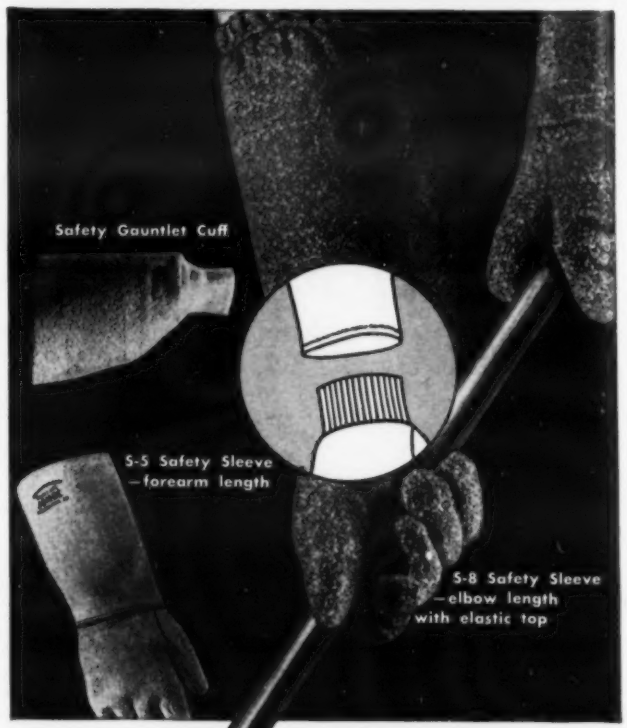


BUY JOMAC FOREARM PROTECTION

Why buy expensive gauntlet gloves? Jomac® Safety Sleeves provide better forearm and wrist protection against burns, cuts and lacerations, outwear many pairs of gauntlet gloves, are washable. Write for new illustrated catalog of Jomac products.

C. WALKER JONES CO., PHILA. 38, PA.

▲ For more details circle NED-383 F3 on enclosed inquiry slip ▲

accurately controlled electric heat

HEATING LIQUIDS
MELTING SOLIDS
in Tanks and Vessels

WATLOW
IMMERSION HEATERS

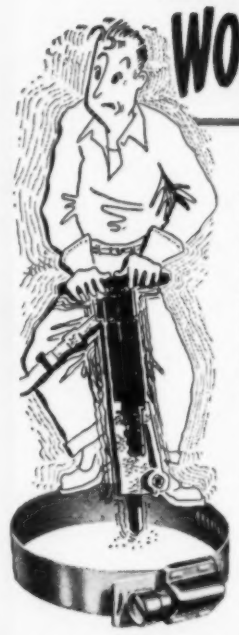
The most efficient method of heating fluids in tanks, kettles, steam tables, boilers, etc. Watlow Units are designed for low internal operating temperatures—which results in maximum life. Available in brass, steel or nickel alloy, also stainless steel sheaths, for maximum corrosion resistance. Standard sizes: ¾" to 2" dia.; 3½" to 60" lengths; 10W-35W densities. Special sizes and shapes built to your specifications.

Send for your free copy of *Watlow Electric Heating Units Catalog.*

WATLOW ELECTRIC MFG. CO.
Since 1922—Designers and Manufacturers of Electric Heating Units
1374 FERGUSON AVE.
SAINT LOUIS 14, MO.

For more details circle NED-384 F3 on enclosed inquiry slip

AERO-SEAL *WORM-DRIVE* HOSE CLAMPS
WON'T SHAKE LOOSE!



Wherever you have to clamp a hose connection tight . . . or wherever you want to lock two objects of any shape together in an unshakeable bond . . . your best bet is AERO-SEAL.

Threads of steel worm engage deep into slots in stainless steel band—hold tight under extreme vibration in automotive, aircraft and industrial applications. CAN'T SHAKE LOOSE.

One-Hand Installation
Install an Aero-Seal any place you can reach with thumb and one finger. Self-feeding when band engages worm threads. Thumb-grip and screwdriver types.

Re-use Again and Again
When hose is worn you RE-USE the same Aero-Seal again and again. RE-USE Aero-Seals on temporary clamping jobs—they conform to any shape without damaging band.

Use of stainless steel subject to government regulations

"Aero-Seal"® WORM DRIVE HOSE CLAMPS
ANOTHER BREEZE MARK PRODUCT
BREEZE CORPORATIONS, INC.
41 South Sixth St. Newark, N. J.

For more details circle NED-385 F3 on enclosed inquiry slip

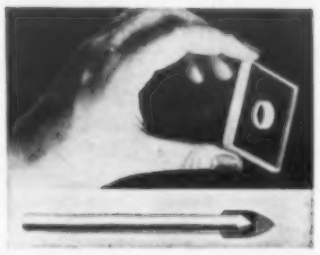
If you move hot, abrasive materials in your operations, you'll do it faster and more economically with either a Simplicity Os-A-Veyor (oscillating type conveyor) or a Model PT Positive Action Conveyor. Simplicitys are ruggedly built for tough duty. Simple power units and operating mechanism mean low maintenance costs and easy servicing. Model PT conveyors, built in lengths of 100', can be installed in multiples to meet any level-operation requirement. Os-A-Veyor types, available in lengths to 30' and 12" to 6' widths, will operate on an incline depending on product being handled. Simplicity conveyors give positive rate of feed control and handle all kinds of material, regardless of temperature and abrasive characteristics, without damage. Write, wire, or phone . . . today.

92

Simplicity
ENGINEERING CO., DURAND, MICH.

For more details circle NED-386 F3 on enclosed inquiry slip

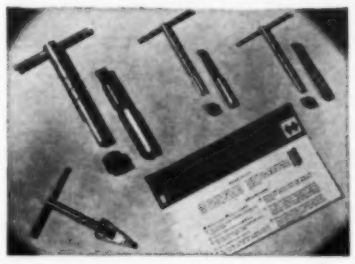
GLASS DRILL
carbide tip can be resharpened



Clean, true holes can be drilled in glass without cracking or spalling the glass at either end of the hole with an improved spear point type carbide drill. Drill can be reground many times and still retain its original size. Tip insures cool cutting and minimum glass breakage. Made by **Super Tool Co.**, 21640 Hoover Rd., Detroit 13, Mich.

For more details circle NED-387 F3 on enclosed inquiry slip

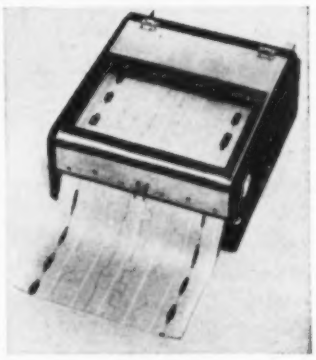
WIRE THREAD INSERT
for repairman and home mechanic



A wire thread insert kit containing taps, inserting tools on extracting tool and 25 stainless steel wire inserts is available for utility use. Kit permits speedy repair of threads in metals, woods and plastics, restoring the threads to the original sizes. Kits are available in those thread sizes found commonly in internal combustion engines. In addition, a wide variety of other insert sizes is available in National and Unified Coarse and Fine thread series, in Aviation Spark Plug series and in the National Pipe Thread series. Made by **Heli-Coil Corp.**, Dept. NED, 1330 Shelter Rock Lane, Danbury, Conn.

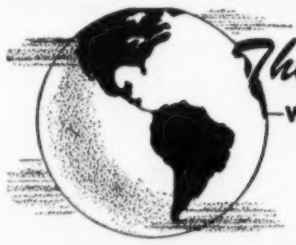
For more details circle NED-388 F3 on enclosed inquiry slip

SIX-CHANNEL OSCILLOGRAPH
is lightweight, compact and portable

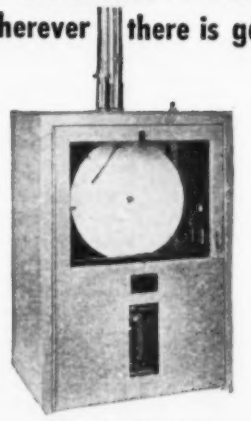


Portable model BL-226, six-channel oscillograph, is designed for use where the need for a lightweight, compact and portable instrument is of prime importance. It is equipped with six model BL-902A Penmotors which permit the simultaneous recording of six channels of instantaneous electrical phenomena in the frequency range of direct current to 100 cycles per second. Controls provide starting, stopping and selection of chart speeds of 5, 25, and 125 mm per second. A remote control box is an optional accessory. Made by **Brush Electronics Co.**, Equipment Div. 36 H, 3405 Perkins Ave., Cleveland 14, O.

For more details circle NED-389 F3 on enclosed inquiry slip



The World Over
—wherever there is gas



ARCCO-ANUBIS 'Dry-Air GAS GRAVITOMETERS

This new Arcco-Anubis Dry Air Gas Gravitometer determines and records specific gravity of gases automatically corrected to the humidity content of the air. The difference in weight between a column of GAS and equal column of DRY AIR is measured. This ratio represents the true specific gravity of the sample.

One bell of the instrument is filled with gas which is being measured, and the other bell is filled with dry air. Otherwise, except for the new instrument having one column for gas and one column for dry air, the unit is identical in operation to the standard gas gravitometer. When calibrated and properly installed, these instruments require little attention other than to wind the clock, ink the pen, and change the chart. Send for bulletin No. 101.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

Available for Early Delivery

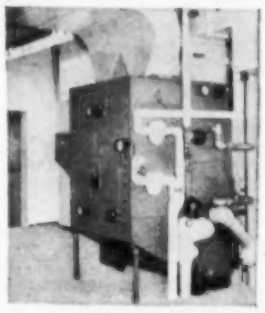
For more details circle NED-390 F3 on enclosed inquiry slip

Control Atmospheric Conditions with Precision

Control of atmospheric conditions for tests and experiments, maintenance of standard conditions while working with hygroscopic materials, prevention of moisture damage to instruments or materials, improved drying processes . . . all are provided more easily and reliably with this new Niagara "Controlled Humidity" Method.

The equipment is simple, easily maintained and gives trustworthy, automatic operation. A liquid absorbent, "Hygrol", removes the moisture from the air directly so that refrigeration is needed only for sensible heat removal, saving equipment and operating expense.

Units provide capacities ranging from 1000 c. f. m. to 20,000 c. f. m. and require less space than conventional apparatus. Conditions are completely controlled at will in the temperature range from 34°F. to 140°F. and below 32°F. if required.



Write for Bulletin No. 112, address:

Niagara Blower Company, Dept. ED, 405 Lexington Ave., New York 17, N. Y.

For more details circle NED-391 F3 on enclosed inquiry slip

FREE BOOKLET

Tells you how to eliminate mechanical gear boxes, clutches and variable-pitch cone pulleys

with the

RELIANCE All-Electric Adjustable-Speed Drive

• **GET THESE FACTS NOW!** Write today for new 12-page bulletin D-2102. It contains dimension data, drive characteristics, operating features, applications, components, operating principles.

D-53

RELIANCE ELECTRIC AND ENGINEERING CO.
1082 IVANHOE ROAD • CLEVELAND 10, OHIO

Sales Offices in Principal Cities

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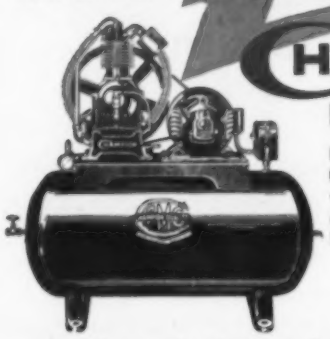
CHECK . . . AND COMPARE!



CHAMPION'S EXTRA FEATURES

DOMED PISTONS AND CYLINDERS • SPECIAL PLATE VALVES • STRAIGHT-LINE AIR FLOW • THIN, DEEP COOLING FINS • SPECIAL AFTER-COOLER • NO-LOAD STARTING • TWO MAIN BEARINGS • SIMPLE MAINTENANCE

aero-dynamic design for . . .

54 MODELS
- ¼ hp to 10 hp units
- horizontal or upright
- stationary or portable
- electric or gasoline

longer life . . . maximum pressure . . . minimum running costs

The air compressor system is a mighty important unit of plant equipment. Many vital production operations depend on it. Whether you plan to add additional compressor equipment — or replace obsoleted units, you should be sure that your new compressor will give you *endurance* PLUS *dependable performance* PLUS *economy*.

These qualities are determined by many things, principally by the materials, workmanship and design of the compressor—not by any single feature. That's why we ask that you *check* and compare the *Extra* CHAMPION *Features* before you make your choice. Check point-by-point and you can't help but pick—the "Champ" of compressors—a CHAMPION.

AIR HOSE REELS
The Hose Reel speeds up work, prevents accidents and saves on air and water hose replacements. May be mounted on ceiling, wall or floor.

WRITE TODAY FOR your FREE copy of the Champion catalog

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CHAMPION PNEUMATIC MACHINERY CO.
837 No. Pleasant St. Princeton, Illinois

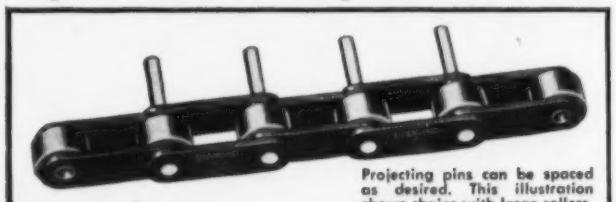
PRESSURE CLEANERS • AIR HOSE REELS • AIR ACCESSORIES

▲ For more details circle NED-393 F3 on enclosed inquiry slip ▲

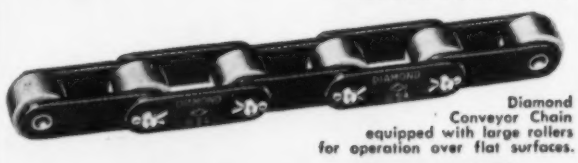
DIAMOND

CONVEYOR CHAINS

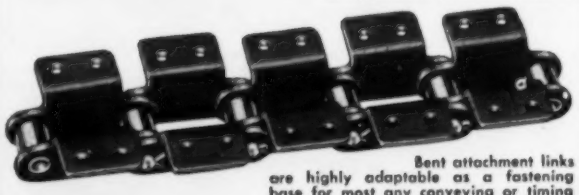
Improve Machinery Performance



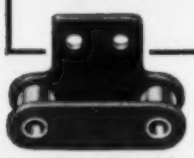
Projecting pins can be spaced as desired. This illustration shows chains with large rollers.



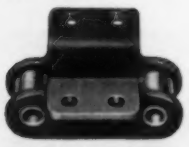
Diamond Conveyor Chain equipped with large rollers for operation over flat surfaces.



Bent attachment links are highly adaptable as a fastening base for most any conveying or timing device. Chains with straight attachment links are also included in this series.



Roller Link with straight Attachment Link Plate on one side. Also furnished with plates both sides.



Roller Links can be supplied with bent plate on one side or both sides.

Similar to above but chain has large Rollers to roll on flat surfaces.

● Diamond Conveyor Chains are manufactured to the same high standards as Diamond Roller Chains. Uniformity of quality — high tensile strengths — and the wear-resisting properties of the hardened pin bushings and rollers result in longer-life performance, and steady maximum output.

A wide selection of pitches, chain designs, and attachments are available for materials handling operations — packaging, boxing, labeling, wrapping — and for timing and control mechanisms.

Conveyor Chains & Sprocket Bulletin 29, gives complete information, illustrations and useful data. Copy will be mailed on request.

DIAMOND CHAIN COMPANY, Inc.
Dept. 457, Kentucky Avenue, Indianapolis 7, Indiana
Offices and Distributors in All Principal Cities
Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER
BETTER CHAINS MAKE BETTER MACHINES

DIAMOND ROLLER CHAINS

▲ For more details circle NED-394 F3 on enclosed inquiry slip ▲

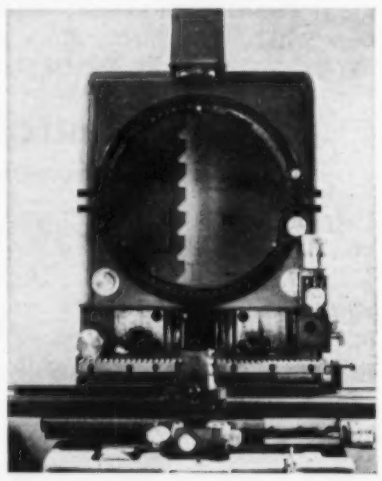
STRETCH-FORM PRESS
production type machine for aluminum extrusions and sheets

Quick and accurate forming of aluminum alloy extrusions and sheets can be performed by this production type Longren-Peterson multi-action stretch-form press. It performs stretch-leveling, preforming, wrapping, skin pressing, bending, forming and stretch-pressing of a wide variety of parts requiring double curvature. Machine requires as little as 2 minutes to load, form and unload and operates at 2000-3000 psi with its five double-action cylinders.

Parts from 6 in. to 30 ft long can be accommodated. Rated at 100 tons, press stretch-forms aluminum alloy in SW condition up to 3 sq in. in cross-sectional area and 72 in. wide. Extrusions or sheets up to 16 ft long and extrusions up to 6 in. wide can be contour-formed. Forming dies are made of steel, high density woods, plastics, plaster and Meehanite. Made by **Longren Aircraft Co.**, Dept. D, 2576 W. Carson St., Torrance, Calif.

▲ For more details circle NED-395 F3 on enclosed inquiry slip ▲

BROACH GAGING
makes use of optical projection



Broach locating fixture placed and locked on the work stage of the model IIA Kodak contour projector makes it possible to check all teeth of broaches for tooth form, spacing and wear for the entire broach length. Image is magnified 10, 20, 31.25, 50, 62.5 or 100 times on the viewing screen as desired. Base of the locating fixture is about 34 in. long, but can be made longer if required. An adapter is supplied with the fixture which is inserted behind the standard 45-degree mirror attachment of the projector to extend forward the focal position for the broach. Contour of the teeth is checked against precision-made lines on the chart-gage viewing screen. Equipment available from **Optical Gaging Products, Inc.**, Forbes & Salina Sts., Rochester 11, N. Y.

▲ For more details circle NED-396 F3 on enclosed inquiry slip ▲

INDIVIDUAL VULCANAIRE DUST COLLECTING UNITS

Are used on surface and other grinders where grinding dust must be removed.

Inexpensive, compact units, with no moving parts. Operated from your present air supply.

Installed in a few minutes, eliminating need for costly centrally located dust collecting systems.

The collector element is mounted on the side of the machine. Quickly cleaned, requiring no refills.

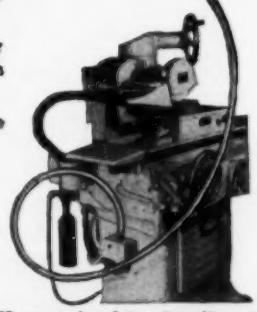
Vac-suction pick-up device (vacuum nozzle) is mounted on the grinding wheel guard or close to grinding wheel on other applications. This mounting permits constant contact with dust as the wheel is moved up or down.

A simple needle valve operates the unit, and can be shut off whenever the machine is not in use.

Available in two sizes: 700 series for grinding wheels 7" dia. or less—200 series for wheels 2" dia. or less.

Made by the makers of Vulcanaire *The* Jig grinding attachment.

Write on your letterhead for "Dust Collector" Booklet.



VULCAN TOOL CO.
737 Lorain Ave., Dayton 2, Ohio

▲ For more details circle NED-397 F3 on enclosed inquiry slip ▲

– and now TAPER-LOCK SPROCKETS

New "off-the-shelf" availability is now brought to roller chain drives. Taper-Lock bushings are available in sizes for most needs—no more boring sprockets to fit shafts. No turning and grinding of shaft necessary—Taper-Lock grips with firmness of a shrunk-on fit. Dodge roller chain is made to highest quality standards.

Complete range of B-type steel sprockets and roller chain available from stock — ½" to 1¼" pitch. For details write for Bulletin A-624.

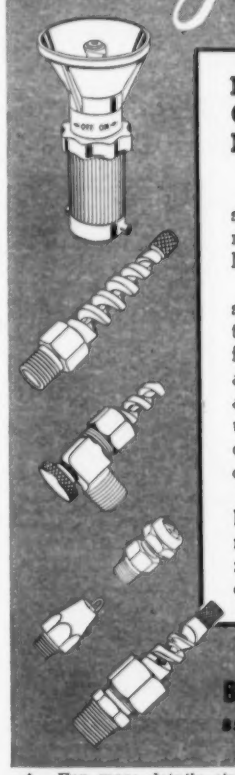
DODGE MFG. CORPORATION
2100 Union Street, Mishawaka, Ind.

– and Dodge Roller Chain

DODGE
of Mishawaka, Ind.

▲ For more details circle NED-398 F3 on enclosed inquiry slip ▲

BETE *Fog* NOZZLES
for Industry, Agriculture, Fire Protection



New Spiral Principle Generates Fine Fog at Low Pressures!

Many spray problems are now being solved through the use of the new and radically different line of Bete Fog Nozzles.

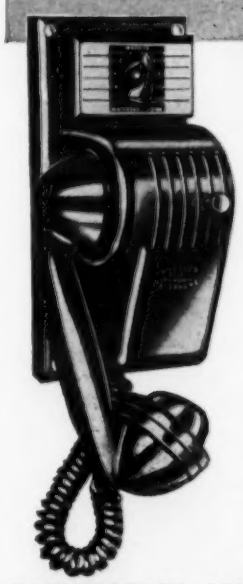
Bete Nozzles operate on a patented spiral principle of fog generation — they shear a continuous spiral sheet from a single jet to produce fine fog at low pressures. These unique nozzles are non-clogging, produce a more uniform drop size, and are so highly efficient that operating pressures can often be reduced.

The Bete line includes wide angle, hollow cone, full cone and flat spray nozzles for all purposes — in flow rates from ½ gallon per hour to 500 gallons per minute.

For Full Information and Catalog write:
BETE FOG NOZZLE INC.
85 Pierce Street, Greenfield, Massachusetts

▲ For more details circle NED-399 F3 on enclosed inquiry slip ▲

OUTLYING PLANT LOCATIONS INSTANTLY ACCESSIBLE



Quickly . . .
Easily . . .
Install

WHEELER
SOUND POWERED *Electric* TELEPHONES

Write for information on this thoroughly tested and proved intercom equipment that operates WITHOUT BATTERIES or outside power source...requires no maintenance...is always dependable IN EMERGENCY. LOW first-and-last cost. No electrical hazards. Handsets, Pair Phones, or complete intercom.

the **WHEELER** INSULATED WIRE CO., INC.
DIVISION OF THE SPERRY CORP.
1108 EAST AURORA STREET
WATERBURY, CONNECTICUT

28WH52A

▲ For more details circle NED-400 F3 on enclosed inquiry slip ▲

THIS light-weight HEAVY-DUTY MAGCOA DOCKBOARD IS

A BETTER INVESTMENT—*here's why*

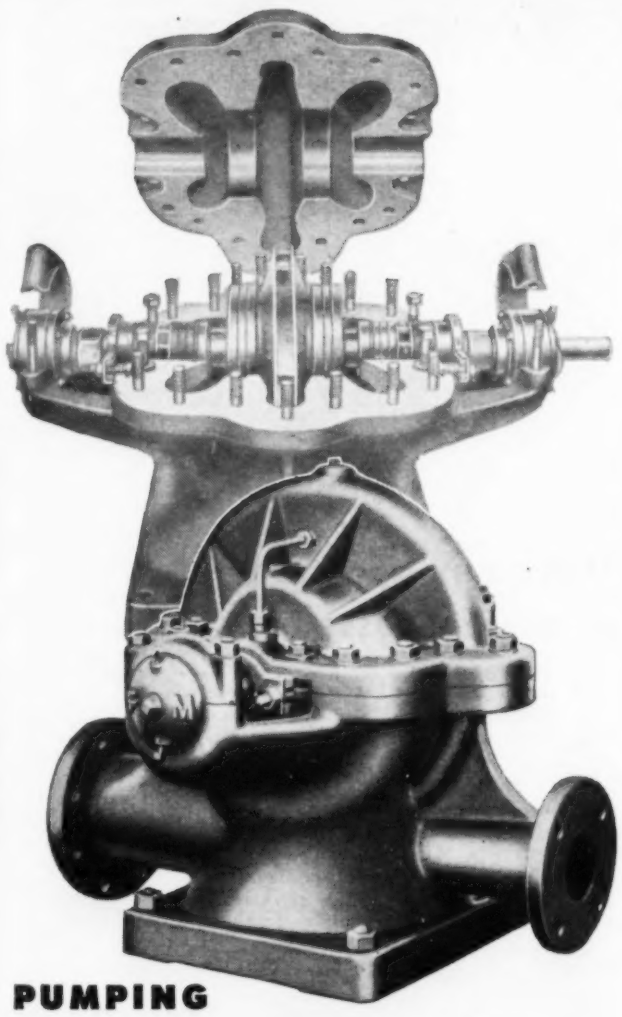
There are three reasons why this is the perfect Dockboard for *this* installation. (1) It is the exact length required for *this* car-to-dock span, with proper allowance for car width variations. (2) The dock end of the board is flared just enough for use on *this* narrow dock, permits part of the turn to be made while the truck is on the board. (3) It is built for weight requirements of *this* company's handling equipment and loads, with a margin of safety to spare.

Your dock is different and your local Magcoa Representative knows it. He's a loading dock expert—thorough and quick in fitting a Magcoa Dockboard to your specific needs. Then mass-production specialists at the Magcoa factory take over. Result: a light-weight HEAVY-DUTY Dockboard that solves your specific problems, quickly . . . and permanently.

Safety, Service, Facts—Quarter-round safety curbs, one-piece hand holds and the other Magcoa safety and efficiency features make your Dockboard safe, permanent equipment. You get Magcoa Service, too, if abuse or misuse puts your Dockboard out of operation. Our free new Facts File gives you all the facts. It's yours for the asking.

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO, 6, IND.

For dock board data circle NED-401 F3 on enclosed inquiry slip
For yard ramp data circle NED-402 F3 on enclosed inquiry slip



PUMPING

"down time!"

GOT YOU DOWN?

. . . then you want a Fairbanks-Morse Split-Case Centrifugal Pump—parts are *easily* accessible for the minimum maintenance necessary. Inspection is simple . . . lift the split casing and the entire rotating element can be removed without disturbing driver or pipe connections . . . even the bearings can be removed without the use of a bearing puller!

See your Fairbanks-Morse Branch Pump Engineer about his complete pump line . . . or write Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE
a name worth remembering when you want the best

PUMPS • SCALES • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • RAIL CARS • HOME WATER SERVICE EQUIPMENT • FARM MACHINERY • MAGNETOS

For more details circle NED-403 F3 on enclosed inquiry slip

QUARTZ CRYSTALS
in hermetically sealed tubes

Tube manufacturing techniques are used in making these precision crystals, available with a varied range of low frequencies and flexible characteristics. Two models in hermetically sealed glass holders are wire mounted in 6V6GT envelope with an octal base and gold or silver plated crystals. The G-9J unit has range from 1.2 to 10 kc, frequency tolerance of plus-minus 0.03 per cent at −40° to 70° C and capacity ratio of approximately 200. Model G-9 with range of 5 to 200 kc has tolerance of plus-minus 0.02 per cent or better at −40° to 70° C. Capacity ratio ranges from 1000 to 200. Made by **James Knights Co.**, Wells St., Sandwich, Ill.

For more details circle NED-404 F3 on enclosed inquiry slip

EYE SWEEP
removes foreign bodies from the eye

Plants in which workers are exposed to flying metallic or nonmetallic fragments can make use of the G-S Eye Sweep, offered in a hard rubber carrying case. One end has a magnet for removing steel splinters, while the other has a flexible loop for removing cinders, dust and other particles. Sterilization does not reduce magnetism or affect the loop. Available from **General Scientific Equipment Co.**, 2701 W. Huntingdon St., Philadelphia 32, Pa.

For more details circle NED-405 F3 on enclosed inquiry slip

LOAD BINDER
handle marked with owner's name

As a means of providing owner identification and thus reducing theft and loss, Canton Load binders are now available with owner's name clearly marked in raised letters on the handle. Added cost for this service is nominal amount, and up to 40 letters can be used for name, state, city, etc. Marked load binders made by **Canton Mfg. Co.**, 2550 Thirteenth St. N.E., Canton 5, O.

For more details circle NED-406 F3 on enclosed inquiry slip

the big cinch

TOWMOTORS IN ACTION IN U. S. INDUSTRY

Anything from pipe to pretzels, Baltimore Stevedoring finds Towmotor more than equal to the task.

Little inch or big one, any job's a lead pipe cinch with Towmotor speeding materials handling up to double and more for you . . . and the boss. Results like that are no pipe dream, thanks to TowmoTorque, the new automatic transmission. And Power Steering. Or the new Cushioned Power Diesels that perform like the frugal brutes they are. Send today for TowmoTorque and Power Steering booklet. TOWMOTOR CORPORATION, Div. 2506, 1226 E. 152nd Street, Cleveland 10, Ohio.

TOWMOTOR THE ONE-MAN-GANG ®
FORK LIFT TRUCKS and TRACTORS
Since 1919

TOWMOTOR ENGINEERED FOR QUALITY PERFORMANCE

For more details circle NED-407 F3 on enclosed inquiry slip

New INTRIMIK

Internal Tri-point Micrometer

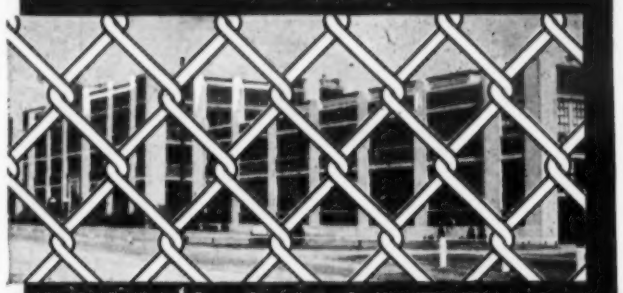
Now you can measure bores and holes *directly* — without masters — with the new Brown & Sharpe Intrimik. It reads like a conventional micrometer. Eliminates many expensive plugs and setting rings. Sixteen sizes to measure from .275" to 4.000". Extensions are available to facilitate measuring deep holes. Write for new illustrated Bulletin. Brown & Sharpe Mfg. Co., Providence 1, R. I., U.S.A.

WE URGE BUYING THROUGH THE DISTRIBUTOR

Brown & Sharpe BS

For more details circle NED-408 F3 on enclosed inquiry slip

REALOCK FENCE



gives **locked-in** protection

All fittings on Realock Fence have bolts so placed that nuts cannot be removed from the outside. This means that Realock Fence provides *added protection* for your grounds and property . . . effectively discourages tampering by would-be trespassers.

Strongly constructed, Realock Fence has high resistance to the elements because of a special galvanizing process . . . gives permanent protection and trouble-free service year after year. For additional information write our nearest sales office or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Buffalo, New York

REALOCK FENCE
THE COLORADO FUEL & IRON CORPORATION CF&I

BRANCHES IN ALL KEY CITIES

For more details circle NED-409 F3 on enclosed inquiry slip

Try CLEVELAND Slotted-Type "Place" Bolts

to solve vibration-point fastener problems

Profit by the economy and one-piece simplicity of this remarkable self-locking fastener

Write today for our Place Bolt Folder.

CLEVELAND *Top Quality* **FASTENERS**
The Cleveland Cap Screw Company
2917 East 79th Street Cleveland 4, Ohio

For more details circle NED-410 F3 on enclosed inquiry slip

RUBBER ENGINEERING **BRAINS**

Primarily, ACUSHNET sells rubber engineering "brains"—specialized, collective engineering skill that produces the solution to problem jobs constantly confronting users of precision molded rubber parts.

ACUSHNET accomplishments in this specialized field of precision production are widely recognized throughout industry. Our engineers will gladly study your prints and recommend stocks with properties to meet specified conditions or work with you in the initial stages of your designs.

Acushnet PROCESS COMPANY

Send for your copy of the Acushnet Rubber Handbook.

Address correspondence to 782 Belleville Ave., New Bedford, Mass.

For more details circle NED-411 F3 on enclosed inquiry slip

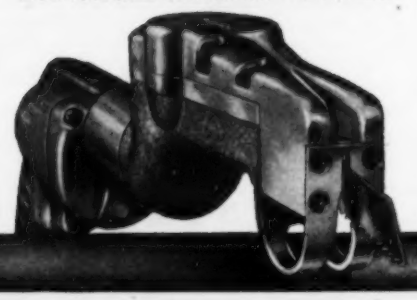
RCS SUPER SAW

SAVES YOU MORE TIME, RIGHT ON THE JOB, THAN ANY OTHER TOOL IN YOUR KIT!

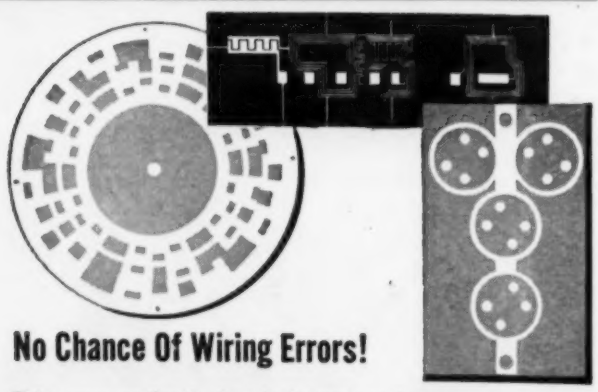
A Journeyman's tool, built to stand up under constant, on-the-job Contractor or industrial use. Needs no starting hole—has built-in blower—fits any heavy duty ¼" or ½" drill—blades to cut all materials—listed on Federal Supply Schedules, Class 40 Materials.

Write for Literature and prices (Bulletin R-6)

R.C.S. TOOL SALES CORPORATION • JOLIET, ILLINOIS



For more details circle NED-412 F3 on enclosed inquiry slip



No Chance Of Wiring Errors!

Print your product's electrical circuit on SYNTHANE copper-clad laminated plastic and you eliminate expensive wiring and wiring errors. Fast and relatively inexpensive, this process permits quick changes in circuits without retraining assembly workers. Easily punched, sawed, and drilled, copper-clad SYNTHANE also combines these properties: high strength, light weight, low inertia, corrosion-and-heat resistance, and high insulation. To learn more about the role of copper-clad SYNTHANE in electronics, mail this coupon today.

SYNTHANE

Manufacturers of laminated plastics

SHEETS
RODS • TUBES
MOLDED-MACERATED
MOLDED-LAMINATED
FABRICATED PARTS

SYNTHANE CORPORATION
N. E. River Road, Oaks, Pennsylvania

Gentlemen:
Please send me information on SYNTHANE laminated plastics' use in "printed" circuits.

*Name*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

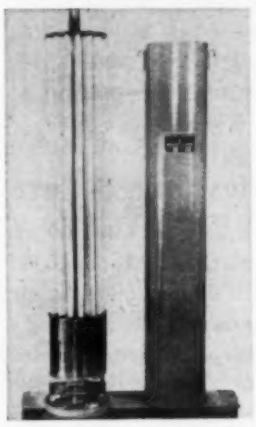
For more details circle NED-413 F3 on enclosed inquiry slip

ANCHOR NUTS
small, self-locking types

Light in weight and having small envelope dimensions, these two self-locking anchor nuts are made with 4-40 and 6-32 thread sizes. They meet requirements of AN-N-5 and AN-N-10 specifications. Nuts are similar, except one has a dome which protects against wire chafing on screw threads in electrical assemblies. Made by **Nutt-Shel Co.**, Dept. NED, 811 Airway, Glendale 1, Calif.

For more details circle NED-414 F3 on enclosed inquiry slip

COMPRESSED AIR FILTER
disposable cartridge lasts 6 months



Twenty-four square feet of filtering area are provided by the disposable filter cartridge of the model A-100-D Condensifier, which filters and dehydrates compressed air. Under normal conditions filter may be used about 6 months before renewal. A large heat exchange area—more than 950 sq in.—removes water and air in both entrained and vaporized states from the air. Accumulated condensate is discharged through a snap-action valve. Made by **Hankison Corp.**, 237 Biltmore Bldg., 951 Banksville Rd., Pittsburgh 16, Pa.

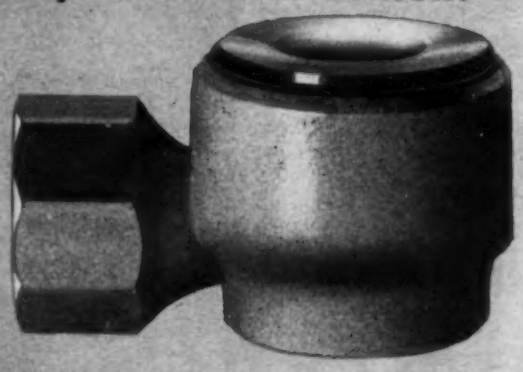
For more details circle NED-415 F3 on enclosed inquiry slip

SAFETY SWITCHES
quick-make, quick-break types

Designed to meet all but the most severe operating demands, line of standard duty HCI safety switches are available in ratings of 30, 60, 100 and 120 amp; 240 and 600 v; two, three and four poles. Switches incorporate a pole unit which is, in effect, a self-contained switch. Pole unit features arc-quenching action which is similar in principle to arc-extinction features of modern circuit breakers. Switches have quick-make, quick-break action, interlocking cover and horsepower ratings. They meet NEMA type A standards and are UL approved. Made by **General Electric Co.**, Trumbull Electric Dept., Dept. M-3, 41 Woodford Ave., Plainville, Conn.

For more details circle NED-416 F3 on enclosed inquiry slip

precision instrument



for improved production

SPRAY NOZZLES alone can often materially control the costs and efficiency of a process or operation involving spraying. All Spraying Systems Spray Nozzles are precision instruments . . . with design based on years of research and experience in specialized hydraulics . . . and with manufacture maintained at precision tolerances. For proof let us give you the facts about Spraying Systems Spray Nozzles . . . the preferred nozzles today among equipment builders and engineering firms everywhere in industry.

WRITE FOR your copies of General Catalog No. 22 and Pneumatic Atomizing Nozzle Catalog No. 23. America's most complete spray nozzle reference manuals. Data Sheets supplied covering specialized applications.

SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

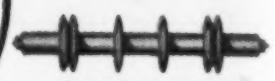
For more details circle NED-417 F3 on enclosed inquiry slip

Specify **CONTINENTAL**

UST IDLERS

Standard Duty Idler

Rubber Disc Impact Idler



Rubber Disc Return Idler

Self-Aligning Troughing Idler

- UNIT-SEALED
- TIMKEN BEARINGS
- PRE-LUBRICATED

***Saves* GREASE! *Saves* LABOR! *Saves* BELTS!**

If you use belt conveyors—you need Continental Idlers!

Write for Bulletin NED-116

ALL SIZES! ALL TYPES! CG-5302

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.
ATLANTA • DALLAS • MEMPHIS • NEW YORK

For more details circle NED-418 F3 on enclosed inquiry slip

"Lightnin® Mixers"

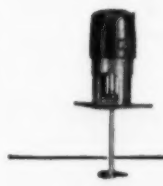
Make any open tank a mixing vessel . . .

Mix fluids in a few seconds, anywhere in the plant. Make up chemical solutions . . . mix paint . . . dissolve powders and crystals . . . circulate solvent for cleaning small parts—do hundreds of mixing jobs quickly, thoroughly.

A LIGHTNIN Mixer takes the place of hand stirring, at much lower cost. Just clamp it on any open tank or vessel.

Thousands in use everywhere. Many in service over 20 years. Fully guaranteed.

Thirty models to choose from—⅛ to 3 HP. Electric and air motor types. *Send today for Catalog B-75.*



FOR PERMANENT MOUNTING . . . Top entering propeller mixers for open tanks, closed pressure vessels. Sizes ¼ to 3 HP. Send for Catalog B-103.

FOR BIG MIXING JOBS . . . Turbine and paddle mixers for open or closed tanks. Sizes 1 to 500 HP. Send for Catalog B-102.

FOR VERY LARGE TANKS . . . Side entering propeller mixers. Sizes 1 to 25 HP. Send for Catalog B-104.

MIXING EQUIPMENT Co., Inc.
165 Mt. Read Blvd., Rochester 11, N. Y.
In Canada: William & J. G. Greey, Ltd., Toronto 1, Ont.

MIXCO fluid mixing specialists

For more details circle NED-419 F3 on enclosed inquiry slip

✓ WITH YOUR BEST BUSINESS FRIENDS WHO USE SHREDMASTER

...the safe, silent, clean paper-shredding machine

They'll tell you that it cuts obsolete confidential records, waste, etc., into unreadable shreds, valuable packing material.

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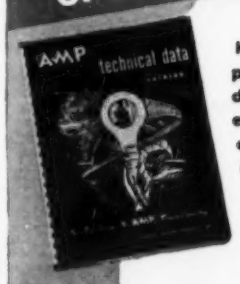
Chase Bag Co. ..... New York City
Fox Knapp Mfg. Co. ..... New York City
Furst-McNess Co. ..... Freeport, Ill.
Kelling Nut Co. ..... Chicago, Ill.
Kohler Co. ..... Kohler, Wis.
S. W. Portland Cement Co. ..... Los Angeles, Calif.
Smith, Kline & French, Inc. ..... Phila., Pa.
Sponge Rubber Products Co. ..... Shelton, Conn.
Thalheimer Bros. ..... Richmond, Va
Tyler Pipe & Foundry Co. ..... Tyler, Texas
Woodward & Lothrop ..... Washington, D. C.

✓✓✓ WITH US... write for Circular #5

THE SHREDMASTER CORPORATION
Division of Self Winding Clock Company
197 Willoughby Ave. Brooklyn 5, New York

▲ For more details circle NED-420 F3 on enclosed inquiry slip ▲

NEW AMP TECHNICAL CATALOG of SOLDERLESS WIRING!



Here, for the first time, is a complete 78 page catalog of technical information devoted solely to *solderless wiring*. AMP's engineering and research facilities are outlined together with test data covering altitude, corrosion, comparative resistance, low currents, radio and audio frequencies, etc. Actual case studies are included which give savings in time and labor in typical applications. Send for your catalog today!

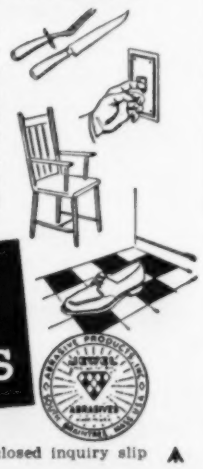
AIRCRAFT-MARINE PRODUCTS INC.
2100 PAXTON STREET, HARRISBURG, PA.
AMP Trade-Mark Reg. U. S. Pat. Off.

▲ For more details circle NED-421 F3 on enclosed inquiry slip ▲

How to get FINER FINISHING at a lower cost

Start by specifying Jewel Brand Coated Abrasives.

Whatever your finishing operation may involve — grinding, smoothing or polishing — there's a specific Jewel Brand Abrasive Belt designed and made to help you do the job better, faster, and at a lower cost. Let an experienced Jewel Brand Engineer help you select the *right* one — for metal, wood, leather, rubber or plastic. Write for complete details. Abrasive Products, Inc., 525 Pearl St., South Braintree 85, Mass.



Jewel Brand COATED Abrasives

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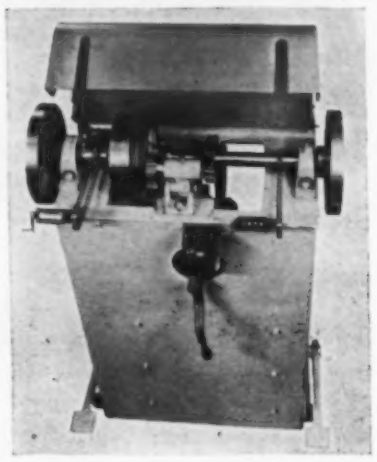
COIL WINDING MACHINE
equipped with one or two faceplates

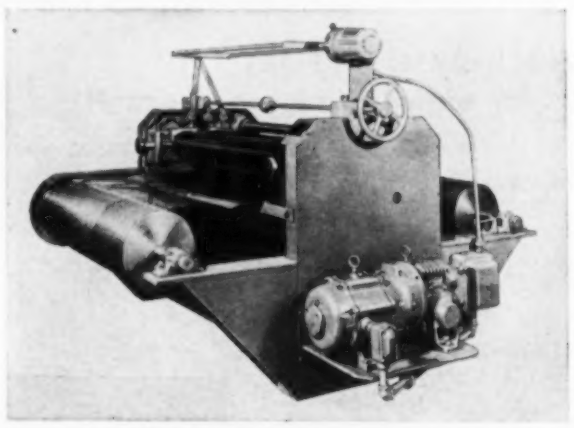


Eight speeds are provided by the transmission gear box incorporated in the Ace No. 3 coil winding machine. Featured are double - V-belts on both head and motor drive, an easy-action no-grab clutch and ball bearings on motor, gear box, clutch and main shaft. Machine can be equipped with two face plates, two foot pedals and two Veeder-Root rotary chain drive counters, one on each side, making it a dual operation unit. The coil winder is equipped with a 1½ hp, 1200 rpm motor, is 39½ in. high to center of 10-in. face plate and has turnbuckle adjustment for clutch and brake. Made by **Armature Coil Equipment, Inc.**, 2607 Vega Ave., Cleveland 13, O.

▲ For more details circle NED-423 F3 on enclosed inquiry slip ▲

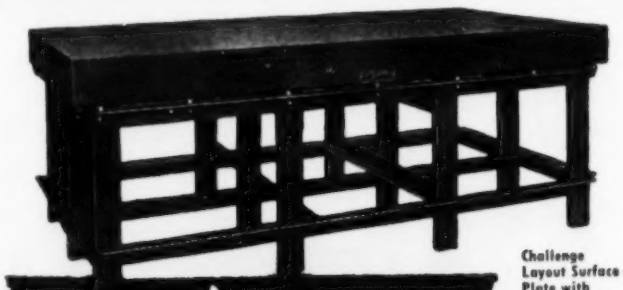
COATING APPLICATOR
wax-spreads cylinder gaskets on both sides simultaneously

Both sides of cylinder gaskets are simultaneously wax coated by this automatic machine. Gaskets are fed into the coating rolls by means of a piano-wire con-



veyor which offers a minimum of contact area. Coating rolls are felt covered and the doctor rolls are Neoprene covered. The unit is provided with safety reversing switch and explosion-proof controls. Maximum recommended coating speed is 20 linear fpm. Machine weight is 4200 lb, height 47 in., width 96 in., and length approximately 80½ in. Made by **Union Tool Corp.**, 222 E. Market St., Warsaw 30, Ind.

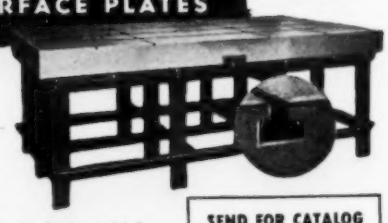
▲ For more details circle NED-424 F3 on enclosed inquiry slip ▲



Challenge Layout Surface Plate with smooth, highly accurate surface.

CHECK THESE ADVANTAGES OF CHALLENGE precision LAYOUT SURFACE PLATES

Challenge Layout Surface Plate with "Tee-Slots".



✓ Smooth accurate surfaces for layout, inspection or assembly.
✓ Built of fine-grade, special analysis semi-steel.
✓ Sixteen standard sizes, six inches thick — other sizes to order.
✓ Available with "Tee-Slots", or with grooving, scoring or machining for checking and assembly.
✓ Plates can be grooved and keyed so that two or more can be assembled into one large complete unit.

SEND FOR CATALOG
Write today for catalog which includes complete information and prices on Challenge Surface Plates.

Challenge TRADE-MARK ®

THE CHALLENGE MACHINERY COMPANY
Office, Factories and Show Room:
Grand Haven, Michigan

732

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ARMSTRONG BROS.
Better PIPE TOOLS

Reversible Ratchet STOCKS and Adjustable DIES

Exceptionally convenient where space is limited, this stock simplifies pipe threading close to walls, in corners and wherever operating room is restricted. With adjustable dies (cut exact, over or under size threads) it is an ideal tool where valves and fittings are being installed or maintained.

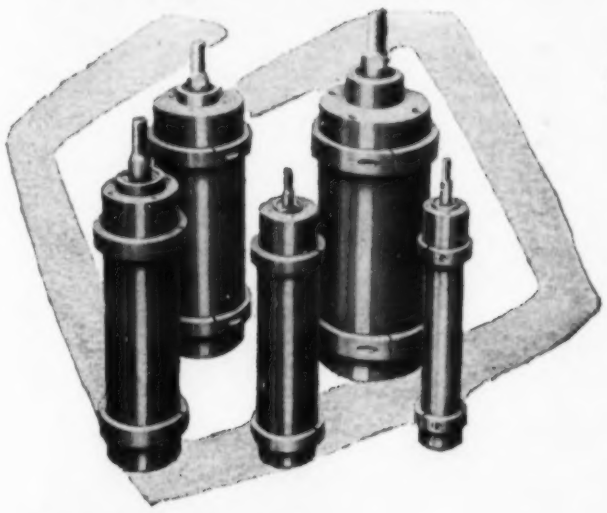
"ARMSTRONG BROS." Adjustable Dies are of special Vanadium Tool Steel, have "backed-off" teeth, correct cutting angle, ample chip clearance and correct throat angle. They start and cut easily, hold their sharpness and "spin" off pipe without jamming or tearing threads.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5245 W. ARMSTRONG AVENUE • CHICAGO 30, ILL.

▲ For more details circle NED-426 F3 on enclosed inquiry slip ▲

WITH THESE NEW Westinghouse Cylinders



YOU GET
Smaller size
Fewer parts
Adjustable cushioning

THE complete line of Westinghouse pneumatic cylinders has been redesigned. They have been streamlined and made real compact. Outside dimensions are only slightly larger than the air column inside the cylinder, and weight has been reduced.

Maintenance is low. There are fewer parts to wear, and *all* parts are made good and strong to assure long life in hard service. A wrench grip on the push rod makes servicing easy and adds to the life of the rod.

You can get these cylinders with or without adjustable cushioning in either or both ends for the 3" and larger diameters. Cushioning is adjusted with a screw-type needle valve.

For applications where corrosion is a problem, cylinders are available with stainless steel push rods and brass bodies. The units can be foot-mounted, flange-mounted, or pivot-mounted. Diameters range from 1½" to 10".

Write for complete information.

Westinghouse Air Brake COMPANY
INDUSTRIAL PRODUCTS DIVISION WILMERDING, PENNA.
Factory Branch: Emeryville, Calif.
In Canada: Canadian Westinghouse Co., Ltd., Hamilton, Ontario

▲ For more details circle NED-427 F3 on enclosed inquiry slip ▲

TALK ABOUT PIPE COILS

... WITH YOUR CRANE REPRESENTATIVE

5 CRANE SHOPS AT YOUR SERVICE

... Conveniently located to serve industry in all areas.

Leave it to Crane to build pipe coils that precisely meet your specifications. Although seamless carbon steel is the favorite material, Crane has the experience—and the facilities to fabricate whatever coils you need in wrought iron, copper, brass, nickel, aluminum, 18-8 of various types, and other alloys. Crane can supply all piping accessories, too, as a further assurance of dependability. Information is in your Crane Catalog and in *free* Circular 318——or check with your Crane Representative.

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Everything for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

▲ For more details circle NED-429 F3 on enclosed inquiry slip ▲

ALLSPEED MOTOR DRIVE is available in both upright (shown here) or horizontal models. Standard NEMA frame motors are used on all sizes. Available in speed variations from 2:1 up to 16:1 and adaptable to any machine—new or old. Units are also available without motors.

Worthington Allspeed Motor Drive

can increase your production by . . .

- Assuring peak production speeds
- Providing instantaneous, smooth, stepless speed control—the correct operating speed for each job
- Enabling you to change from minimum through maximum speed while motor is in motion
- Guaranteeing automatic and positive belt tensioning—no time wasted adjusting belts

Learn more about the cost-cutting features of Allspeed Motor Drives. Write for Bulletin AS-1600-B6. Worthington Corporation, Oil City, Pennsylvania.

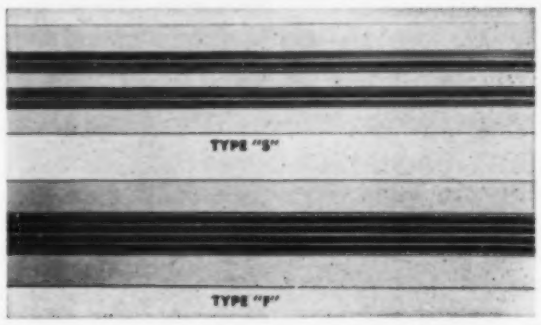
AS.3.4

WORTHINGTON
Allspeed Drives

▲ For more details circle NED-430 F3 on enclosed inquiry slip ▲

AIR DIFFUSERS employs vaned air distribution

A vaned principle of air distribution is employed by these two Agitair Stripline continuous air diffusers. Built-in diffusing vanes produce high turbulence, as-



piration and rapid temperature equalization. They assure a continuous blanket of unvaried air over predetermined area without any noticeable air motion. Slender-like design makes it possible for units to be blended into the architecture of the building. Made by **Air Devices Inc.**, Dept. D, 17 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-431 F3 on enclosed inquiry slip ▲

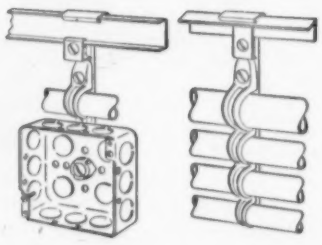
FLAME-PROOF GLOVES give protection up to 800°F

Manufactured from a heavy bright red cloth for instant visual recognition, the Flame-Proof line is available either as gloves or mitts. Both lined and unlined styles are made, giving protection against temperatures ranging up to 800° F. Made by **C. Walker Jones Co.**, Dept. D, 6135 N. Lambert St., Philadelphia 38, Pa.

▲ For more details circle NED-432 F3 on enclosed inquiry slip ▲

SINGLE ARM SUPPORT for outlet boxes and conduit

Outlet boxes and conduits can be mounted above hung ceilings with Fast-Lok single arm supports, attached to carrying channels or angle irons without disassembly of their holding clamps. They can be used with all types of ceiling suspension and material and with all kinds of recessing lighting. Support is fitted with a snap-on button for carrying outlet boxes, knock-out hole of which is pushed over the button. Four or more conduits can be racked on a single support with half-clamps and an additional conduit can be supported above or below the outlet box. Made by **Fast-Lok Mfg. Co.**, 68 Ash St. at Bedford, Bridgeport 5, Conn.



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if it's **FLAMEFOIL*** *It can't Blaze*

Approved by all recognized safety authorities

Write us for samples you can test to your own satisfaction. Please specify the approximate weight of duck desired.

Manufactured under Patents Nos. 2,014,176 and 2,299,612 . . . . . others pending.

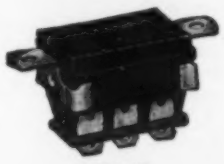
RESISTANT to
- FIRE
- WATER
- WEATHER
- MILDEW

PHILADELPHIA TEXTILE FINISHERS, Inc.
108 Lafayette St. Norristown, Penna.
PROCESSORS OF FLAME-RESISTANT FABRICS

▲ For more details circle NED-434 F3 on enclosed inquiry slip ▲

FOR PUBLIC ADDRESS, RADIO, and kindred fields, specify **JONES** 400 SERIES **PLUGS AND SOCKETS** of *proven* quality!

P-406-CCT



S-406-AB

Double Contact Area

Phosphor bronze knife-switch socket contacts engage both sides of flat plug contacts.

Socket contacts phosphor bronze, cadmium plated. Plug contacts hard brass, cadmium plated. Insulation molded bakelite. Plugs and sockets polarized. Steel caps with baked crackle enamel. 2, 4, 6, 8, 10, 12 contacts. Cap or panel mounting.

Information on complete line, in Jones Catalog 18: Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▲ For more details circle NED-435 F3 on enclosed inquiry slip ▲

Acme Steel Announces New Gas-Powered Wire Stitcher

Shippers can now carry on stitching operations even where there are no electrical outlets available, with the new gasoline-powered Acme Steel Wire Stitcher. Powered by a built-in, compact, 1-hp., 4-cycle engine, it's as easy to run as a power lawn-mower. Costs little more than standard models, and opens up a whole new field of economical, mobile wire stitching operations.

For details, ask your Acme Steel representative or write to Acme Steel Products Division, Dept. NED-63, Acme Steel Company, 2840 Archer Ave., Chicago 8, Ill.

ACME STEEL
STITCH IT...STRAP IT...SHIP IT...SAFELY!

▲ For more details circle NED-436 F3 on enclosed inquiry slip ▲

PRE-TESTED STAMINA FOR HIGHER OUTPUT LOWER MAINTENANCE

METALLOGRAPH PROVES THE SERVICE "EXTRAS" IN ATLAS "SUPER-LIFE" ROLLER CHAIN

Extra toughness for your heaviest shock loadings, extra wearability to slash your maintenance costs, and extra fatigue life to give you longer uninterrupted service! These extra values in every length of Atlas Roller Chain are pre-tested daily on the Atlas Metallograph, for proven performance year after year on power transmission drives.

To give you smoother, trouble-free performance, the Metallograph stands guard over the stamina and toughness of every heat-treated part in Atlas Chain . . . checks the metallic properties that mean extra production at lower cost.

For full-rated speeds on all your machines, for longer wear and more economy, get the chain with the service "extras" . . . install Atlas Roller Chain on every drive. Send today for your copy of the fact-filled Atlas Catalog and Handbook.

See Your Local Atlas Distributor for Quick Deliveries and Experienced Service

ATLAS CHAIN & MANUFACTURING CO., PHILA. 24, PA.

ATLAS ROLLER CHAIN

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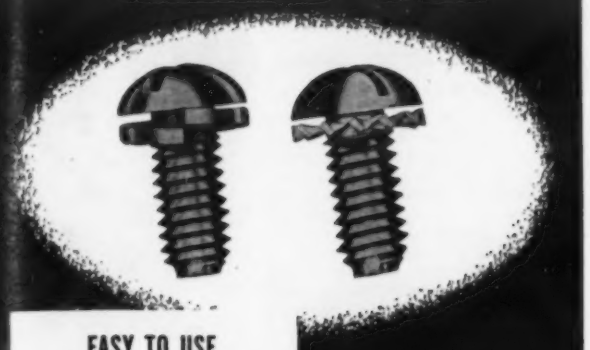
REDUCE ASSEMBLY TIME!

USE RELIANCE SPRINGTITES and SEMS



EASY TO USE
SPEEDS ASSEMBLY
ELIMINATES WASHER LOSS

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For more details circle NED-438 F3 on enclosed inquiry slip

PURE WATER
DISTILLED WATER?

PROBLEMS SOLVED WITH Barnstead EQUIPMENT

DEMINERALIZED WATER?

In hundreds of manufacturing processes, where complete purity is needed, Barnstead Stills provide the highest-quality, lowest-cost, chemically pure, sterile water from ½ to 1000 gallons per hour. With over 100 different models to choose from, Barnstead can provide the exact still to fit your particular needs. For Barnstead Laboratory and Industrial stills are the proven standard of the scientific and industrial world.

Where modern manufacturing processes require only high-test mineral-free water, Barnstead Demineralizers are the best producers . . . 5c per 1000 gallons with a minimum of supervision and maintenance. Many new industries are turning to Barnstead Demineralized Water for greater production, fewer rejects and better quality control.

WRITE

Catalog #123 gives both sides of the Pure Water Picture. Since Barnstead makes both stills and demineralizers, you'll find this catalog complete, authoritative, unbiased. Write Today!

Barnstead STILL & STERILIZER CO.
First in Pure Water since 1878
16 Lanesville Terrace, Forest Hills, Boston 31, Mass.

For more details circle NED-439 F3 on enclosed inquiry slip

For "Unbroken" Service
. . . Steady Production

Quaker
CONVEYOR BELTING

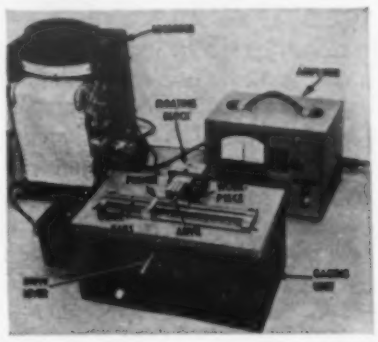
Round the clock production! It's yours with Quaker belting for long hauls, short pulls, tough loads or steep inclines. Carefully engineered and rigidly pretested for exceptional resistance to high flexing, tension and wear. Tough, highest quality rubber encloses desired number of friction plies uniformly tensioned for safe overall shock absorption. In any desired weight or cover thickness for wet or dry conveying.

Write for name of nearest Quaker distributor

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
Dept. D, Philadelphia 24, Pa.
Branches in Principal Cities

For more details circle NED-440 F3 on enclosed inquiry slip

GAGING EQUIPMENT
records deviations in millionths



Problem posed by cylindrical pins whose diameters must be checked at four points to plus or minus 0.000005-in. has been solved by the illustrated special gaging equipment. After workpiece is placed on cylindrical guide rail with tweezers to prevent distortion from body heat, a motor-driven pusher pushes the work at constant speed along the guide rails between an anvil and the gage head. Recorder chart shows the deviation from nominal diameter in millionths of an inch along the full length of the work. Measuring element consists of a Cleveland Micro-Ac gage head and amplifier. With workpieces of 2 in. length, equipment can gage up to 120 pieces per hour. Made by **Cleveland Instrument Co.**, 735-A Carnegie Ave., Cleveland 15, O.

For more details circle NED-441 F3 on enclosed inquiry slip

REMOTE SIGNAL UNITS
tie-in with audio-visual system

Remotely located visual trouble signals can be made to operate as part of a common plant-wide audio-visual annunciator system by means of this Panalarm adapter unit. Either individual back-lighted, illuminated, nameplate units or bullseye lamps are furnished. Latter can also be used with separate on-off lights to form three-light control station. All signals connect to common horn or bell. Moving parts and contacts are in sealed corrosionproof plug-in units suitable for Class I, Division 2 locations. Adapter cabinets, prewired for standard audio-visual sequences, are furnished for any number of signals and operate from any type remote contact device. Made by **Panalarm Products, Inc.**, Dept. 148, 6312 N. Broadway, Chicago 40, Ill.

For more details circle NED-442 F3 on enclosed inquiry slip

Electronic Components

Victoreen Instrument Co.—Vibrators, subminiature and special purpose tubes, resistors and electrometers are among the line of electronic components described in 8-page catalog. Detailed specifications, illustrations, typical circuits and applications are included.

For more details circle NED-443 F3 on enclosed inquiry slip

Send for YOUR copy
of this Important book—today!

● Just off the press, this informative pamphlet is one you cannot afford to miss. It fully describes our three *Special Crane Rail Sections*. It shows a special technique of tight-joint-assembly which, when combined with a new conception of "floating-rail" fastening, will result in fewer delays in crane operation and less costly crane and crane runway maintenance.

This book is a "must" if you are planning a new crane or runway installation, or if you're having maintenance problems with your present cranes.

Simply send your name and address to United States Steel Corporation, Room 2812-A. 525 William Penn Place, Pittsburgh 30, Pa., and your copy will be sent to you at once.

U·S·S SPECIAL CRANE RAIL SECTIONS USS
UNITED STATES STEEL

For more details circle NED-444 F3 on enclosed inquiry slip

NEARLY TWO MILLION NOW IN USE

FOSTORIA
LOCALITES
for Machine Tools, Assembly and Inspection Benches

Industry's best tool for fast, accurate, comfortable "Seeing"

$6.12 EACH
in package of 6
Single Units $7.65 Each

MODEL 3267-H-174
Overall length 32¾". Three instantly adjustable joints. Flat oblong base for machine screw mounting.

- **Rugged Construction** withstands vibration and rough handling
- **Instantly Adjustable** with flexible ball and socket joints
- **Reflector** accommodates 100 watt or any A-19 or A-21 medium screw base lamp
- **Baked Enamel Finish** — Exterior, smooth Gray — Reflector Interior, high temperature White
- **Wired Complete** with switch socket and 8-ft. oil-resistant cord and moulded plug

LOCALITE fostoria for Light ON the Job

Write for complete catalog of Localite models with various type reflectors, arms and bases for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION
FOSTORIA, OHIO
Localites are available through wholesalers everywhere

For more details circle NED-445 F3 on enclosed inquiry slip

FOSTER
Chrome Sleeve Quick Detachable
COUPLERS
AND HOSE FITTINGS

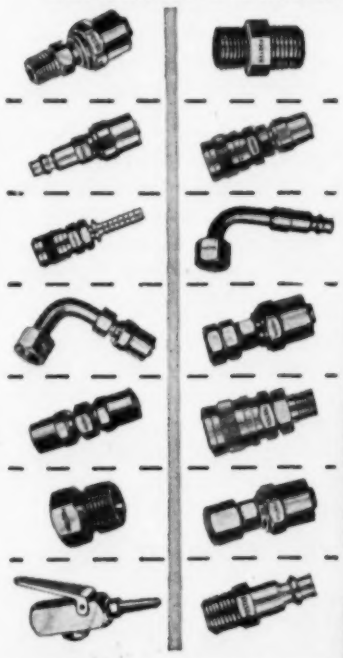
Price...Lower than most
Quality...None Better
Delivery...Immediate

- Reusable Socket Heads for Lower Replacement Cost!
- One Second Hookup Under Pressure!
- Tight-Seal, Dirt-Proof Construction! Leak-proof!
- Instant Automatic Flow! Swivel Action!

Foster Quick Detachable Couplers for pneumatic and hydraulic applications give longer service and cost less than other comparable couplers. Delivery of any order, large or small, is immediate. An order to Foster is faster. Write Dept. 2.

FOSTER MFG. COMPANY, INC.
2850 Gravois • St. Louis 18, Mo.

FOSTER FITTINGS ARE AVAILABLE THROUGHOUT THE NATION



Send for *Free* CATALOG

ASK US WHY WE RECOMMEND

For more details circle NED-446 F3 on enclosed inquiry slip

SECOND best thing for INSTALLATION HEADACHES

Here's the FIRST!

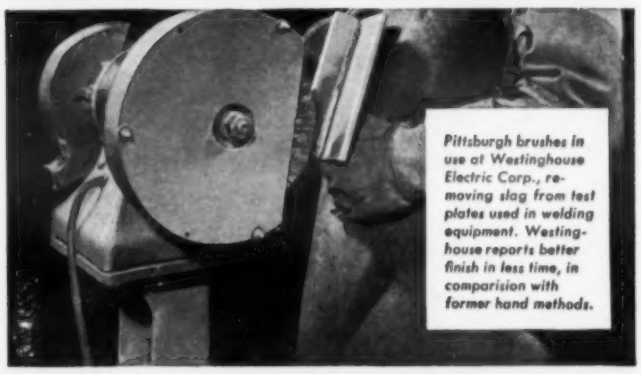
THE small size of *Axiohm resistors* simplifies installation in radio, electronic and related equipment. These rugged miniature Vitrohm resistors are designed specifically for easy installation in circuits used in highly compact equipment. They are mounted without lugs, bolts or brackets on their own wire leads which are hot tin-dipped for ease of soldering. They are available in the following ratings and sizes:

5 watts, 1 to 10,000 ohms, 1" long • 10 watts, 1 to 50,000 ohms, 1¾" long
or custom built to your specifications

Write for Ward Leonard Catalog 15. 51 South St., Mt. Vernon, N. Y.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RHEOSTATS • RELAYS • MOTOR CONTROLS • CHROMASTER

▲ For more details circle **NED-447 F3** on enclosed inquiry slip ▲



Replace hand finishing with power-driven Pittsburgh Brushes for

Better Cleaning Lower Labor Costs Fewer Rejects

—as these companies did:

Removal of imbedded slag in welding test plates formerly was done by hand at the Westinghouse Electric Corp., Trafford, Pa., using a wire brush and welder's hammer. Pittsburgh brushes, powered by a direct-drive ½ h.p. motor, now remove more slag in less time, and produce a better finish. In addition, Westinghouse reports their Pittsburgh brushes "stand up better than average in use."

Complete cleaning of dried concrete, rust and scale from steel frames used in concrete forming is essential prior to re-using the forms. Pittsburgh wire brushes were installed at the Universal Form Clamp Co., Chicago. Working on a conveyor-fed machine, the Pittsburgh brushes now remove all foreign material at a rate of 50 pieces per hour, replacing former laborious hand brushing and scraping.

De-scaling preheated bar stock at the Dominion Forge & Stamping Co., Ltd., Canada, was formerly done by hand scraping. This never did a complete job, and inclusions resulted which produced defective forgings. Pittsburgh brushes, on specially-designed machines, now do the job, and have "increased efficiency, decreased the amount of scrap, improved work quality, and saved labor."

WRITE TODAY FOR FREE BOOKLET!
Write today for a free copy of our booklet that shows, through actual case histories, how Pittsburgh cuts brushing costs. Address: PITTSBURGH PLATE GLASS COMPANY, *Brush Div.*, Dept. W-4, 3221 Frederick Avenue, Baltimore 29, Maryland.

PITTSBURGH
Power Driven
BRUSHES
BRUSHES • PAINTS • GLASS • CHEMICALS • PLASTICS • FIBER GLASS
PITTSBURGH PLATE GLASS COMPANY
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

▲ For more details circle **NED-448 F3** on enclosed inquiry slip ▲

ELECTRICAL CONNECTOR
interlocking type is interchangeable

Design of No. 2209 Turn-Tyte interlocking electrical connector enables it to make a strainproof, double-locked connection. Locking principle is shown in the cutaway view. It is interchangeable with all other interlocking makes. Danger of body breaking or chipping and broken connections due to impact, pressure or vibration is eliminated, as is danger of shock under extremes of temperature and humidity. Two, three and four-wire types, rated for 10 and 20 amp, are offered. All have rust and corrosion resistant cord clamps, Underwriters' listing and CSA approval. Made by **Rodale Mfg. Co.**, Minor St., Emmaus, Pa.

▲ For more details circle **NED-449 F3** on enclosed inquiry slip ▲

COVERALLS
are lightweight and acid resistant

Comfortable fit at all times is provided workmen by Feon chemical resistant coveralls of Vinyon-N fabric. Light in weight, they feature pleated back and deep armpits, crotch and pockets. Material is strong, yet cool and smooth and will not show dirt readily because of its gray color. It resists concentrated mineral acids and alkalies, wide variety of inorganic acids, bases and salts, temperatures and strong reagents used in industrial laundries. Pockets and thread are of same material. Made by **Filtration Engineers, Inc.**, Filtration Fabrics Div., 155 Oraton St., Newark 4, N. J.

▲ For more details circle **NED-450 F3** on enclosed inquiry slip ▲

GOGGLE WASHER
operated by foot treadle

Goggles, safety glasses and plastic face shields can be quickly and easily cleaned in this model No. 8985 goggle wash fountain. Aerating nozzle sprays directly down on the surface being cleaned. Operation is by foot treadle. Made by **Haws Drinking Faucet Co.**, 1429 Fourth St., Berkeley 10, Calif.

▲ For more details circle **NED-451 F3** on enclosed inquiry slip ▲

▲ For more details circle **NED-452 F3** on enclosed inquiry slip ▲

No. 150K SpeedWay SpeedSander KIT

Sands, Cleans, Rubs, Polishes—MOTOR-DRIVEN
3/16" ORBITAL-MOTION

No. 150 SpeedSander with powerful direct-connected, 3450 r.p.m. 110 v., A.C. air-cooled motor. No gears nor gear-housing to collect grit and dust. Sealed ball-bearings thruout. Cast-aluminum body and chrome plated—in hand weight only 5 lbs. Natural grip, all-position handle with sliding thumb switch and 3 wire rubber-covered cord. Handy, fitted, steel carrying case with accessories including: thick neoprene Contour Pad, steel Surfacing Plate, free abrasive Felts, lamb's wool Polishing Bonnet, 90 Abrasive Sheet Covers (18 each of 5 grits) and hardboard Template that cuts three 4½" x 6½" covers from standard 9" x 11" abrasive sheets.

$49.50 KIT COMPLETE

Write for Catalog

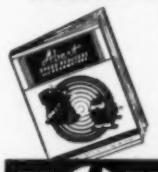
SpeedWay MANUFACTURING CO.
1892 So. 52nd Avenue • Cicero 50, Illinois

▲ For more details circle **NED-453 F3** on enclosed inquiry slip ▲

Abart SPEED REDUCERS

Even on your most difficult applications, you can depend on Abart Speed Reducers to deliver efficient, economical power transmission and accurate reduction ratios. These compact units are precision built for exacting performance and long, trouble-free service.

Choose from over 75 sizes and types. Worm, spur, and combination gear. Ratios up to 10,000 to 1. Horsepower ratings from 1/50 to 168. All Abart Reducers are oil tight and dust free.



Send for illustrated pocket size Catalog containing full engineering data on Abart Speed Reducers and Gearmotors.

Abart GEAR & MACHINE CO.
4826 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears, Speed Reducers and Gearmotors

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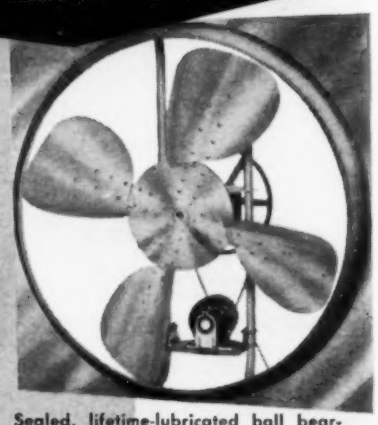
At Last...



AN INDUSTRIAL FAN WHICH

REQUIRES NO MAINTENANCE

OFFERS FULL 10-YEAR GUARANTEE

Sealed, lifetime-lubricated ball bearings in both fan and motor never require lubrication. Install 'em and forget 'em.

INDUSTRIAL FANS BY
Murray
COMPANY OF TEXAS INC
Atlanta, Ga.

H. C. BIGLIN CO., INC.
177 HARRIS STREET, N.W. • ATLANTA, GEORGIA

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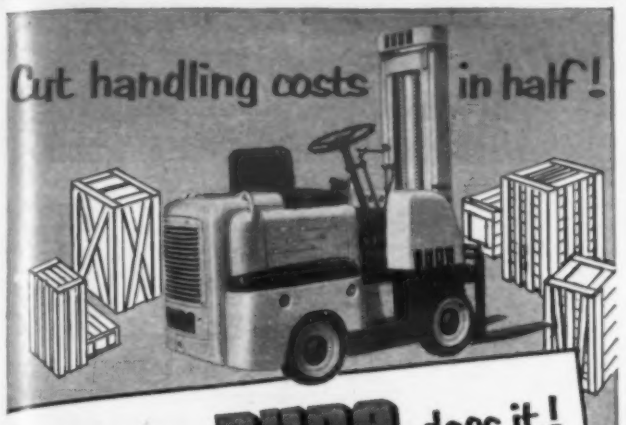

Diesel by BUDA does it!

Buda Diesel-powered fork lift trucks swivel on a dime . . . purr up steep ramps, finger capacity loads into the tightest corners. They penny-pinch fuel, burning it clean through, saving 50% to 60% on fuel costs with no fire or toxic vapor hazards. New torque converter gives clutch six lives . . . can be replaced in 30 minutes!

Ask your nearby Buda distributor how Buda Diesel-powered equipment saves fuel, maintenance and operation costs. Or write for bulletins and specifications. The Buda Company, Harvey, Ill.

...THE LINE WITH ALL 3 FOR DIVERSIFIED HANDLING

BUDA

Chore Boys · Towing Tractors · Fork Lift Trucks

▲ For more details circle NED-456 F3 on enclosed inquiry slip ▲

Aeroquip

YOUR BEST BUY IN FLEXIBLE HOSE LINES

FITTINGS are detachable and reusable. For on-the-spot hose line replacements cut bulk hose to required length and attach fittings. It saves time and money, and reduces inventory.

HOSE is tough, durable and fire resistant. Ideal for use with hydraulic fluids, lubricants, water, gasoline, Diesel fuel, air and many other fluids.

AEROQUIP CORPORATION
JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE

Aeroquip Products are fully protected by Patents in U.S.A. and Abroad

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You Get the BEST!

IN METAL STAMPINGS WASHERS PARTS ASSEMBLY WORK from

Quadriga

SEND TODAY FOR THIS VALUABLE 16-PAGE BOOKLET

Contains complete data on:

TENSION WASHERS · FRICTION WASHERS · FINISHING WASHERS · WIRE TERMINALS · BLANKING DIES · DISHED BLANKS · STANDARD GAUGES · GENERAL STAMPINGS · PROGRESSIVE AND COMPOUND DIES

We have a press capacity up to 150 tons—depth of draw to 4 in.

THE QUADRIGA MANUFACTURING CO.
221 WEST GRAND AVENUE • CHICAGO 10, ILLINOIS

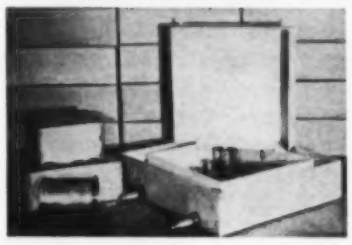
▲ For more details circle NED-458 F3 on enclosed inquiry slip ▲

MICROMETER HEAD
nonrotating spindle type

Swiss made, the Tavannes nonrotating spindle micrometer head has a 1-in. range, and reads by vernier, to 0.0001-in. It is used as standard equipment on the Boeckeler model 1 optical micrometer and is now available for general mechanical and electronic applications. Distributed by **Boeckeler Instrument Co.**, 29 E. Rillito St., Tucson, Ariz.

▲ For more details circle NED-459 F3 on enclosed inquiry slip ▲

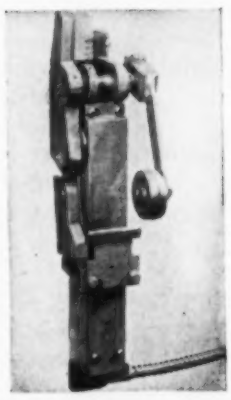
RETORT KIT
gives furnace special atmosphere



An ordinary heat treating furnace can be converted to one with protective or special atmosphere with this retort kit consisting of retort proper, carbon blocks to prevent sticking of work, sand for seal, pressure gage and gas cock to control gas flow. Uses include bright annealing of carbon and stainless steel, copper brazing or silver soldering, sintering powdered metal parts, carburizing, nitriding, carbo-nitriding, producing controlled oxide coatings and cleaning scaly carbon or green stainless steel. Retort can be built for any effective size from 3½ x 3½ x 3 in. to 18 x 18 x 16 in. Extremely dry atmospheres for handling stainless are obtained with this retort system. Made by **Metachem Laboratories, Inc.**, 6303 Indianapolis Blvd., Hammond, Ind.

▲ For more details circle NED-460 F3 on enclosed inquiry slip ▲

ELEVATOR DOOR INTERLOCK
for new installations and renewals



Simple and sturdy safety interlock prevents operation of freight elevators until the shaftway gates or doors are closed, and also prevents the opening of gates and doors while the elevator is away from the floor level. Unit is U. L. approved, and is suited to new installations and for replacement of old and obsolete interlocks on existing doors. Contacts are protected by a Bakelite case to keep out moisture, dust and dirt and eliminate shutdowns. It is designed for use with either a stationary or rotating cam on elevator. Made by **Guilbert, Inc.**, 1105 Frankford Ave., Philadelphia 25, Pa.

▲ For more details circle NED-461 F3 on enclosed inquiry slip ▲

new MULTIPRESS® "touch control"

Perfect Ram Control in the Palm of Your Hand

Now you can have all the operating advantages of Multipress *plus quick, direct-action "Touch Control". In exact, split-second relation to every move of this "slave control" lever,* the Multipress ram starts, stops, reverses, speeds up, slows down or exerts pressure. Rapid "jiggling" of the lever brings equivalent vibratory pressures on the work. In short, ram action is so closely related to hand-lever action that the operator quickly gets the "feel" of each operation. Stroke length is fully adjustable at both upper and lower limits. Pressure limits can be preset as desired. Ram effort is quickly shown on a dial gauge. Wherever complete ram control is needed — as in straightening — get Multipress with new "Touch Control"! Write for details.

The DENISON Engineering Co.
1151 Dublin Rd. Columbus 16, O.

DENISON HydrOILics

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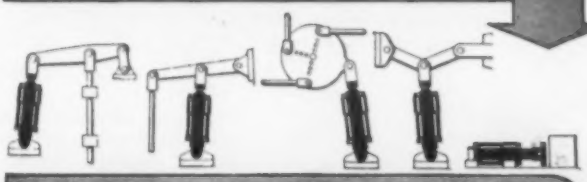
FOR THE 1001 JOBS



WHERE CYLINDER POWER IS BEST TO USE . . .

HANNA CYLINDERS ARE THE *FINEST* YOU CAN CHOOSE!

FREE! "27 Ways to Use Cylinder Power." Send for the New "Cylinder Power in Action" Bulletin!

Hanna Engineering Works

HYDRAULIC AND PNEUMATIC EQUIPMENT . . . CYLINDERS . . . VALVES . . . RIVETERS

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Save time...

ENGRAVE your own NAMEPLATES DIALS • PANELS

Engravograph

The fastest, easiest method for engraving individual nameplates, dials and panels.

- Automatic depth regulator
- Engraves 15 sizes from One Master alphabet
- Equipped with self-centering device

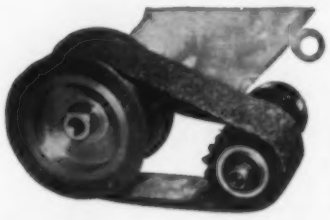
Send for Catalog IM 26

NEW HERMES, Inc. 13-19 University Place, N.Y. 3
In Canada: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

▲ For more details circle NED-464 F3 on enclosed inquiry slip ▲

PORT-A-BELT Grinding... Cuts finishing time 90% on aluminum castings

Source: THE CARBORUNDUM COMPANY
Niagara Falls, New York



A finishing operation on aluminum castings, which formerly required 30 minutes per casting, is now done in 3 minutes with CARBORUNDUM's abrasive belts and "Port-A-Belt" Grinding Attachment. Ten times as many castings are finished per hour. Of course this 90% saving in time is an outstanding example of "Port-A-Belt" economy. But you may well be surprised at the savings you can make with this tool, which "brings the abrasive tool to the work."

To help you cut production time and costs, four models of the "Port-A-Belt" Attachment are available. Used with long-life abrasive belts from the complete line by CARBORUNDUM, these new grinding tools bring the versatility and economy of belt grinding to such jobs as cleaning and finishing castings, grinding small-radius die and mold areas, contours, welds, edges, etc.

All four models fit nearly all standard make horizontal-spindle portable-grinders—air or electric. They offer the high cutting rate and long belt life made possible by the serrated surface of the "61" contact Wheel. They are light, easy-to-handle—yet sturdy, with nothing to get out of adjustment.

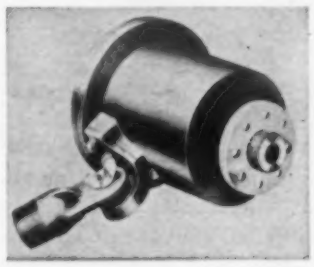
Get full details on "Port-A-Belt" Grinding Attachments and abrasive belts from your CARBORUNDUM distributor or salesman. Or write to us at Dept. NED 82-319.

"Carborundum" and "Port-A-Belt" are trademarks of The Carborundum Company, Niagara Falls, New York

82-319

▲ For more details circle NED-465 F3 on enclosed inquiry slip ▲

SPEAKER-DRIVER UNITS for sound systems in hazardous areas



Locations where inflammable liquids, gases or dusts create explosion hazards can make use of explosionproof speaker-driver units. Two units are designed for indoor and outdoor public address and sound reinforcement uses. Type MI-12461-2 unit has Underwriters' approval for use where flour, feed, grain or starch processing, coal pulverizing, metallic dust, grain or similar particles are prevalent. Alnico V equipped units have fatigue-resistant beryllium-copper voice coil leads. Both have peak power ratings of 60 w and frequency response of from 90 to 7000 cps. Each is housed in a noncorrosive aluminum casting and weighs about 15½ lb. Made by **Radio Corp. of America,** RCA Victor Div., Front & Cooper Sts., Camden 2, N. J.

▲ For more details circle NED-467 F3 on enclosed inquiry slip ▲

PORTABLE ASPHALT DRYER drying capacity up to 10 tons/hour

Developed for use with the H & B Moto-Patcher, this mobile asphalt dryer has drying capacity of up to 10 tons per hour. Aggregate feeding is by rotary

elevator from truck, or hand feed. Drum is 8 ft long and has 30 in. diameter. Low pressure air-atomizing oil burners are fed by 40-gal capacity fuel oil tank. Power unit is Briggs & Stratton model 23R6 with reduction gear and Viking fuel pump. Ball bearings and roller chain are used throughout. Unit attaches to any standard make truck with towing hitch. Retractable swivel type landing gear has adjustable leveling device. Made by **Hetherington & Berner Inc.,** 751 Kentucky Ave., Indianapolis 7, Ind.

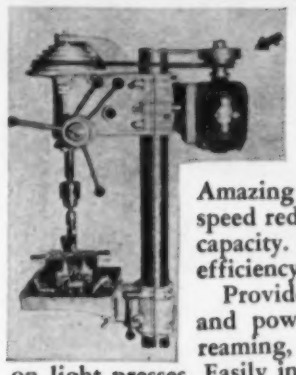
▲ For more details circle NED-468 F3 on enclosed inquiry slip ▲

Jig & Fixture Components

Northwestern Tool & Engineering Co.—New catalog 21 describes over 300 components, includes the following new items: socket heat type shoulder screws; small and tiny sizes of press type jig feet; heavy nuts and washers from ½ through 1 in.; National Coarse and Fine flanged nuts; long sizes of latch bolts, jig feet and quarter turn screws.

▲ For more details circle NED-469 F3 on enclosed inquiry slip ▲

New "PULL-GEAR" SPEED-REDUCING PULLEY Increases Drill Press Capacity



Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity.

Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approximately 45 to 2000 RPM. Write for literature.

Made in 3 Motor Shaft Sizes ½" • ⅝" • ¾"

Some Territories Open to Jobbers

THE PULL-GEAR CO.
4118 E. 8-Mile Rd., Detroit 34, Mich.

WRITE FOR LITERATURE

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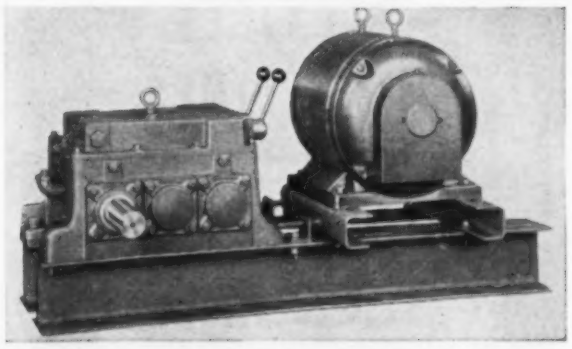
TURNER 4-SPEED Transmission *from fractional HP through 60 HP*

TURNER MOTOR ▼



Here is the answer to many power transmission problems. A four speed transmission in sizes from fractional HP through 60 HP. For use with any speed electric motor or engine. Available in a wide range of speed ratios including certain six and nine speed transmissions.

WRITE US TODAY — OUTLINE THE DESIRED OUTPUT SPEEDS, SIZE AND SPEED OF MOTOR OR ENGINE, A BRIEF DESCRIPTION OF YOUR PROBLEM AND WE WILL FORWARD COMPLETE DETAILS.

TURNER UNI-DRIVE CO.
3485 Terrace Street Kansas City 8, Mo.

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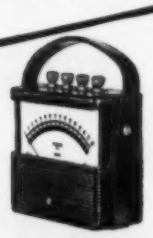
Specialized and Multi-purpose INSTRUMENTS for RESEARCH·PRODUCTION·MAINTENANCE

For complex, or just routine measurement jobs, these and other specialized WESTON Instruments save time and assure dependable measurements. For information on the complete line, see your local Weston representative, or write . . . WESTON Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark 5, N. J.

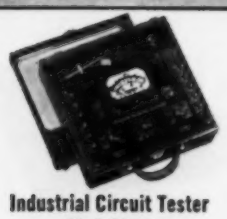
Model 622
Ultra-Sensitive Instruments

Portable d-c and a-c thermo instruments for precision measurement of potentials and minute currents in electronics or laboratory research.



Model 901
Portable Test Instruments

Available in d-c, Model 901—and a-c, Model 904, single and multiple ranges of wide coverage. Excellent scale readability and shielding. Accuracy within ½ of 1%.



Industrial Circuit Tester
Model 785

A multi-range, multi-purpose, ultra-sensitive analyzer, for laboratory and industrial checking of electrical and electronic circuits. Has 28 practical scale ranges; measures d-c and a-c voltage, d-c and a-c current, and resistance. Accessories available to extend ranges. Compact and portable; furnished in either oak or steel case.

High Frequency Electronic Analyzer—Model 769

A three-in-one instrument providing a self-contained Volt-Ohm-Milliammeter, a high impedance electronic D-C Volt-Ohmmeter, and a probe type Vacuum Tube Voltmeter for use to 300 megacycles. Exceptionally stable and accurate. Has specially designed extremely small RF and D-C probes.

WESTON *Instruments*

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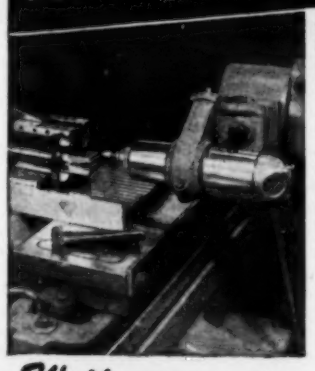

ONE PORTABLE MULTI-PURPOSE PRECISE GRINDER-MILLER WITH MACHINE TOOL MOUNT DOES THE WORK OF A SINGLE-PURPOSE MACHINE COSTING 100 TIMES AS MUCH!

Little can be done today to reduce labor and material costs. For substantial savings employ new, better techniques. Mount PRECISE Grinder-Millers on lathes, drill presses, milling machines and other machine tools or use in special production set-ups. ¾ HP; speeds from 20,000 to 45,000 r.p.m.; 115 volts, AC-DC. Ruggedly built for continuous duty. All metal housing; rigid PRECISE quill; sealed micro-precision bearings. *High speeds and accurate PRECISE quill and chuck are ideal for tungsten carbide cutters.* PRECISE will grind, mill or finish any material from soft wood to the hardest alloy steel.

Write FOR NEW CATALOG

PRECISE PRODUCTS CORP., 1346 Clark St., Racine, Wis.

Precise GRINDER-MILLERS

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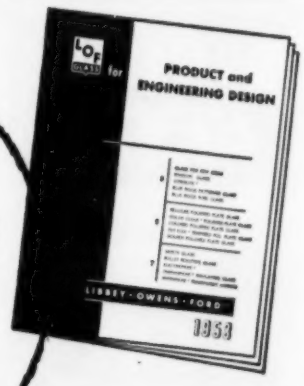
What is this 13-in-1 material?



It's heat resistant or heat absorbing or heat insulating, electrically nonconductive or conductive, flat or curved, transparent or translucent or opaque, patterned or plain. It's Libbey·Owens·Ford *Glass* and the new 1953 book you see here suggests many ways you can use glass to replace costlier materials in your products or production system. Send for your *free copy* of PD-53 today.

Libbey·Owens·Ford Glass Company, 9363 Nicholas Building, Toledo 3, Ohio.

LOF GLASS PLASKON FIBER-GLASS

LIBBEY · OWENS · FORD GLASS COMPANY

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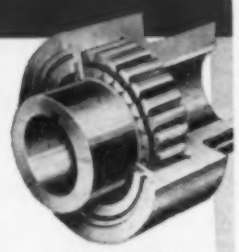
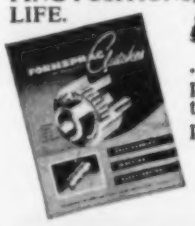
THE FULL COMPLEMENT SPRAG-TYPE CLUTCH



DESIGN ENGINEERS EVERYWHERE ARE SPECIFYING IT

Designers of equipment using over-running clutches are specifying Formsprag Clutches. Because: They've found out what a sprag is . . . What Full Complement means . . . Why that principle provides MAXIMUM TORQUE CAPACITY (for size and weight), INFINITE NUMBER OF GRIPPING POSITIONS, LONGER LIFE.

OVER-RUNNING
INDEXING (Feeding)
BACKSTOPPING



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FORMSPRAG COMPANY
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Van Dyke, Michigan

FULL COMPLEMENT **FORMSPRAG** *Clutches* DISTRIBUTORS IN PRINCIPAL CITIES

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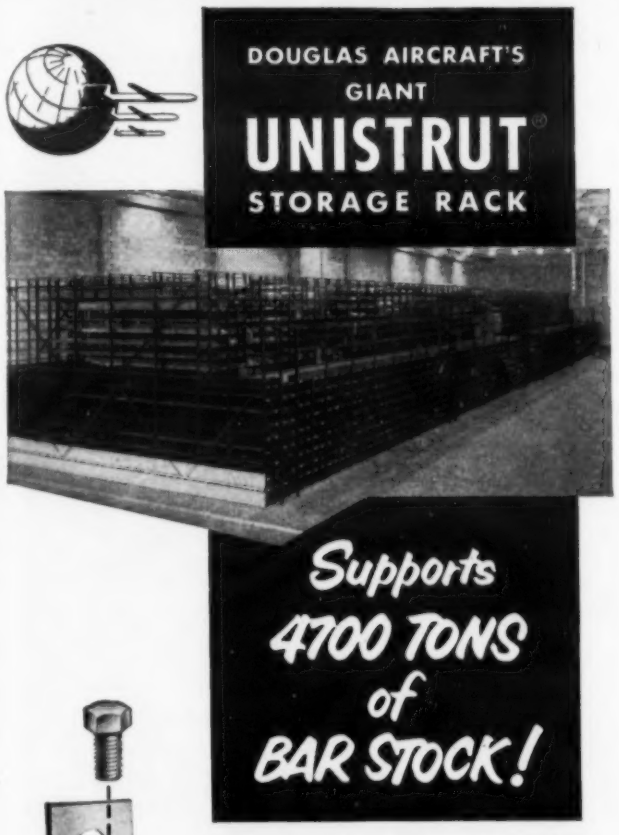


Basic components of the UNISTRUT Metal Framing System

Solves complex problem of storing and handling bars, rounds, tubing in limited space. Installed quickly at low cost. Adjustable, re-usable and completely safe.

Inside the Douglas Aircraft Company's El Segundo, California plants are the largest UNISTRUT bar stock racks ever built. The one shown is 132′ wide, over 25′ deep and 14½′ high. With 2376 compartments 9½″ high by 12″ wide, it has a total load capacity of 9,400,000 pounds!

UNISTRUT racking systems conserve space, cut handling expense and provide a construction material that can be re-used without additional investment. Adjustable UNISTRUT framing requires no drilling, welding, special tools or equipment.

WRITE TODAY...

for FREE copy of UNISTRUT Rack Catalog No. 600

Dept. N6
UNISTRUT PRODUCTS COMPANY
1013 W. Washington Blvd.
Chicago 7, Illinois

UNISTRUT

THE WORLD'S MOST FLEXIBLE ALL-PURPOSE METAL FRAMING

For more details circle NED-475 F3 on enclosed inquiry slip

ELECTRONIC CALCULATOR quantity produced device solves "impossible" problems

The first advanced-purpose electronic calculator to be scheduled for quantity production, model 701 computer solves problems involving partial and ordinary differential equations, integral equations, matrices, and combinatorial analyses. It operates 25 times as fast and is less than one-quarter the size of the previous Selective Sequence Electronic Calculator, and will rent for $11,900 monthly or more depending on storage capacity.

In solving a typical problem, it performs an average of 14,000 mathematical operations a second. A partial differential equation for aircraft wing design, requiring 8,000,000 calculations, can be solved in a few minutes. Results are stored on magnetic tape, printed, or punched on standard cards all at very high speeds. Made by **International Business Machines Corp.**, Dept. JBD-1, 590 Madison Ave., New York 22, N. Y.

For more details circle NED-476 F3 on enclosed inquiry slip

TOOLROOM SURFACE GRINDER features three-way coolant feed

Dimensional control is centralized and the work fully protected from grinding heat through design of this grinding machine which has 6 x 24-in. work area. Coolant is applied to the work either by Cool Grinding system—where the wheel acts as a carrier for coolant introduced at its side and forced through wheel to the cutting point by centrifugal force; by conventional flood cooling; or by combination of the two methods. Precision ground elevating and feed screws allow the operator to grind directly to hand-wheel calibrations. Controls are conveniently located. High and variable speed spindle attachments are available as optional equipment, as are motorized controls. Variable speed cross feed control is standard. Made by the **DoALL Co.**, 256 N. Laurel Ave., Des Plaines, Illinois.

For more details circle NED-477 F3 on enclosed inquiry slip

You can depend on

NAYLOR Here is your source for standard fittings for lightweight pipe, special fabrications to meet your specifications on simple or complex layouts, or fabrications of standard weight pipe. Specials range from 3″ to 44″ in diameter and wall thickness to ¼″. All types of materials. Write for Bulletin No. 525.

NAYLOR PIPE COMPANY
1247 E. 92nd Street, Chicago 19, Illinois
New York Office: 350 Madison Ave., New York 17, N.Y.

For more details circle NED-478 F3 on enclosed inquiry slip

HOW DO YOU TIE?

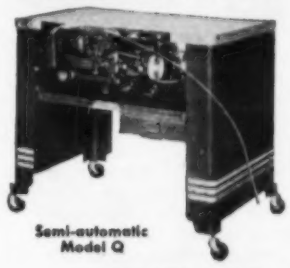
WITH TWINE?

Use Gerrard's B.S.M. Twine Sealer!

FULLY AUTOMATIC *SEALS WITH METAL*
3 SECOND CYCLE SAVES YOUR TIME!

WITH STEEL?

Use a Gerrard Machine and Round Steel Strapping
8 TO 18½ GA.



Semi-automatic Model Q

Unique twist knot—no seals needed
STRONG SAFE FAST
Costs 40% less than any other metal reinforcement

Model G

WRITE FOR FREE LITERATURE
Gerrard Steel Strapping Division, United States Steel Corporation
4717 South Richmond St., Chicago 32, Ill.

USS **GERRARD STEEL STRAPPING**
UNITED STATES STEEL

For more details circle NED-479 F3 on enclosed inquiry slip

INVESTIGATE *Sta-Warm*
COMPOUND _ RESIN _ SOFT METAL
MELTING and DISPENSING EQUIPMENT

Outline your current compound melting problem to Sta-Warm today and ask for their engineering recommendations.
No obligation.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

For more details circle NED-480 F3 on enclosed inquiry slip

Announcing– the new LPD design **Clipper Seal**

an all-purpose oil seal with new long life and a wide range of applications

The new LPD Clipper Seal provides improved sealing efficiency over a wider range of shaft speeds and equipment variables. It is effective under service conditions and temperatures heretofore considered impossible.

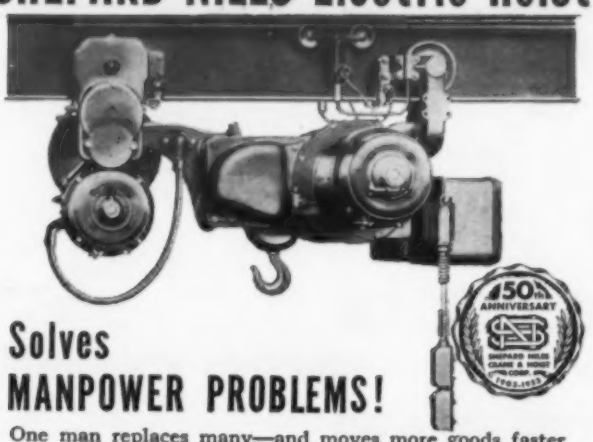
It can be used for practically any application with greater assurance of fewer replacements. Because of its lip design, and compounds used, it requires less lubrication over its bearing area, enabling it to last longer and run cooler. The greater flexibility of its lip enables it to perform better, sealing effectively with minimum torque.

Available in a wide range of heel and lip compounds. For further information write Johns-Manville, Box 60, New York 16, N. Y.

Johns-Manville CLIPPER SEALS

For more details circle NED-481 F3 on enclosed inquiry slip

SHEPARD NILES Electric Hoist



Solves MANPOWER PROBLEMS!

One man replaces many—and moves more goods faster—with a Shepard Niles Electric Hoist! These rugged hoists free floor space for production, put waste ceiling area to work—enable an older man, woman or youth to handle heaviest loads with ease.

Learn how a Shepard Niles Hoist—in light, medium or heavy capacity—fits into your production picture. Let a Shepard Niles representative help you select the right capacity and controls for your handling job. Write today for latest bulletins—and ask to have a representative call

HOISTS Operated from Cab, Floor or Pulpit. Cap: 1 to 20 Tons.

CRANES Overhead: Top Running, Inner Running, Under Running, Floor or Cab Operated. Cap: 1 to 450 Tons.

SHEPARD NILES
CRANE AND HOIST CORPORATION

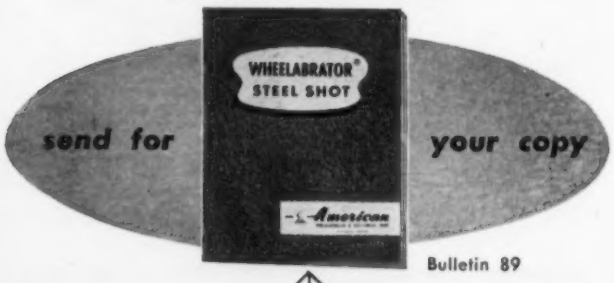
1828 SCHUYLER AVENUE, MONTOUR FALLS, N.Y.

For more details circle NED-483 F3 on enclosed inquiry slip

WHEELABRATOR® STEEL SHOT

the hard working shot for blast cleaning that works longer hours to lower cleaning costs per ton

this bulletin tells how

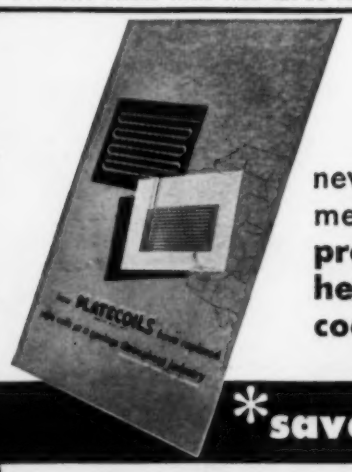


send for your copy

Bulletin 89

American
WHEELABRATOR & EQUIPMENT CORP.
508 S. Byrkit St.
Mishawaka, Indiana

For more details circle NED-484 F3 on enclosed inquiry slip



new method of **process heating** and **cooling**

***saves 50%**

- * in initial cost
- * in heating and cooling time
- * in tank space
- * in maintenance labor

Each member of your buying committee should have this book which tells how Platecoils satisfactorily solve tank heating and cooling problems . . . and at the same time save time, money and manpower.

PLATECOIL REPLACES PIPE COILS

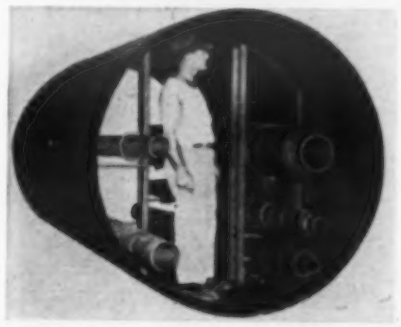
Write for your free copy of Bulletin P57 today!

KOLD-HOLD MANUFACTURING CO., LANSING 4, MICH.

For more details circle NED-485 F3 on enclosed inquiry slip

PREFABRICATED TUNNEL PIPING

is insulated underground system for all needed utility services



Developed for the protection of underground piping and other utility services, Utilidor Conduit is large diameter prefabricated tunnel piping system. System is designed to job requirements with distribution piping for steam, condensate, water, fire lines or process purposes all in place and insulated where required. Traps, valves and expansion devices are included as needed. Provision can be made for electrical and communication cables, ceiling lights and other wiring. Utilidors are shipped as easily-handled units approximately 21 ft long, with simple joint connections and fittings or tees and elbows prefabricated to fit into runs.

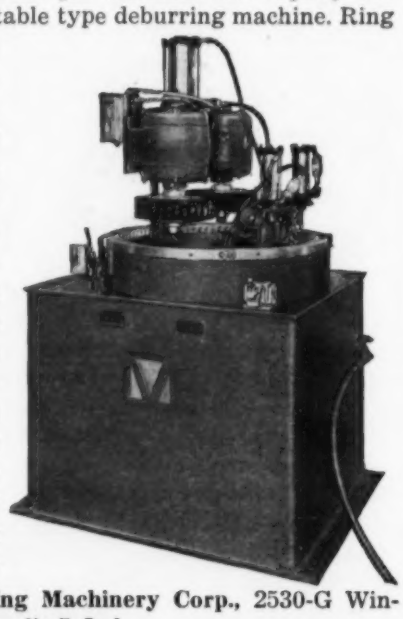
Heavy gage corrugated ingot iron housing is hot-dip galvanized and thoroughly protected with asphaltic or phenolic resin coatings. Diameters range from 36 to 84 in., depending upon the nature and number of services to be housed. Ample walk-through space is provided in larger diameter units. Made by **Ric-wiL Co.**, 1047-A Union Commerce Bldg., Cleveland 14, O.

For more details circle NED-486 F3 on enclosed inquiry slip

TURNTABLE DEBURRING MACHINE

for jet turbine ring sections

Compressor stator rings, half rings or number of other ring sections of jet turbines are rapidly deburred on this turntable type deburring machine. Ring sections are held to accurate diameter during deburring by means of interchangeable holding fixtures. Machine readily adapts to modification for deburring other circular work pieces. Complete time cycle for loading, deburring and unloading a pair of 32-in. diameter aluminum half rings is only one second. Made by **Grinding & Polishing Machinery Corp.**, 2530-G Winthrop Ave., Indianapolis 5, Ind.



For more details circle NED-487 F3 on enclosed inquiry slip

ENGRAVING and MARKING

The Green Engraver

ENGRAVES, ROUTS PROFILES and MODELS

A real money saver for industry.

Proven by the experience of tool and die, electronic machine, radio, electrical and instrument manufacturers.

The Green Engraver zips out precision work on metal, plastics, wood, glass, hard rubber etc. . . . engraves panels, name plates, scales, dials, molds, lenses, instruments, instruction plates, directional signs . . . by simple tracing. *Routing, profiling and three dimensional modeling indicate its versatility.* Electric etching attachment available.

Specify the Green Engraver for the best in low cost performance.

Special attachments and engineering service available for production work.

FREE — Fact-packed folder yours upon request.

Green Instrument Co.
INCORPORATED

375 PUTNAM AVENUE CAMBRIDGE 39, MASS.

For more details circle NED-488 F3 on enclosed inquiry slip

NEW SBS WATERLESS WASHSTATION*

"brings the washroom to the worker"* for only $52.50 per unit

(F.O.B. Saginaw, Michigan, towel dispensers not included)

Portable Wash-up units that save hundreds of man-hours . . . thousands of dollars!

The SBS Waterless Washstation is a complete hand-washing unit that requires no plumbing because it uses SBS-30 Waterless Skin Cleanser.

- **locates** close to work areas in factories, warehouses, or outdoors.
- **saves** up to $720 per unit annually by reducing time workers spend off the job washing up.
- **reduces** crowding in washrooms at lunch time and new shift time.
- **eliminates** use of harmful and irritating solvents.

SBS Waterless Washstation is heavy steel finished in grey-green enamel. Turret top has storage space, holds SBS-30 dispenser and two of your own paper towel containers. Removable cloth bag for used towels in base. Easy to fill dispenser has two-way feed adjustment that provides 1000 to 1500 washes before refilling. One turn of handle dispenses right amount of cleanser—no leakage, no waste. SBS-30 cleanser is just rubbed on, then wiped off along with all dirt and grease. Leaves hands clean, smooth and soothed. WRITE for complete information about SBS Waterless Washstations and our 30-day no-risk money back trial offer.

*Trademark 87

SUGAR BEET PRODUCTS CO., Saginaw, Mich.
Chemical By-Products Division, Dept. 5F

For more details circle NED-489 F3 on enclosed inquiry slip

MOTO-TRUC *Designed for . . .*

PURCHASING DEPT.
Costs less . . . fits into budgets . . . economical.

ENGINEERS
Rugged, all welded construction . . . constant traction . . . stabilized 4 point load support on Hi-Lift . . .

PLANT MANAGERS
Small . . . compact . . . minimum operation and storage area . . .

OPERATORS
Simplified operation through "Roller Grip" controls . . . anyone can operate the truck with very limited instruction . . .

MAINTENANCE MEN
Especially designed for quick servicing . . . all parts easy to get to . . .

Regardless of individual titles, it will pay you to get ALL the facts on MOTO-TRUC . . . and there's a MOTO-TRUC for every purpose.

Pallet type "Walkie" truck 4000 to 6000 lb. capacity.

SEND FOR BULLETIN NO. 51

Model G. A. Tractor

Hi-lift "Walkie" type 3000 to 4000 lb. capacity.

Platform "Walkie" type 4000 to 10,000 lb. capacity.

Representatives in Principal Cities

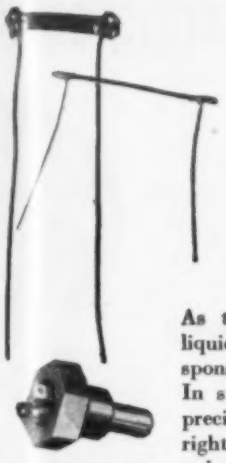
The MOTO-TRUC Co.

1961 E. 59th STREET • CLEVELAND 3, OHIO

PALLET . . . PLATFORM . . . HI-LIFT TRUCKS

LARGEST EXCLUSIVE MANUFACTURERS OF "WALKIES"

For more details circle NED-490 F3 on enclosed inquiry slip



Used in this typical application for sensing temperature of hydraulic oil.

just right for your job!

BENDIX-FRIEZ high-precision thermistors

As temperature measuring elements and liquid level sensors, these temperature responsive resistors are the best you can buy. In standard or special types, their high-precision manufacture makes them precisely right for your job when it comes to resistance values, size, temperature coefficient, mountings and quality. Ask us about applications.

STANDARD TYPES FOR IMMEDIATE DELIVERY

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x .75	45.0 ohms	86 ohms	194 ohms
.040 x 1.5	12,250 ohms	26,200 ohms	65,340 ohms
.018 x 1.5	35,000 ohms	82,290 ohms	229,600 ohms

Write for details.

FRIEZ INSTRUMENT DIVISION of Bendix Aviation Corporation

1444 Taylor Avenue, BALTIMORE 4, MARYLAND

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

▲ For more details circle **NED-491 F3** on enclosed inquiry slip ▲

THIS PLANT

Provides TOOLING and builds SPECIAL MACHINES

Thirty-four years of special machine and tool building has trained SEMCO tool-makers, engineers and skilled workmen—well able to most efficiently design, develop and build your new machinery and production equipment.

Write for a copy of our *Free Pamphlet—"Men, Machines and Equipment"*. It gives a practical answer to your tooling, special machine development and experimental problems.

SEMCO SERVICE MACHINE COMPANY INCORPORATED

202 MILLER STREET ELIZABETH, N. J.

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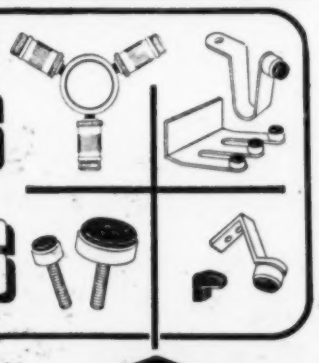
SILVER GRAPHALLOY

BRUSHES AND CONTACTS



. . . for applications requiring low electrical noise, low and constant contact drop, high current density and minimum wear.

GRAPHALLOY TRADE MARK REG. U. S. PAT. OFF.

EXTENSIVELY USED IN

SELSYNS • ROTATING THERMOCOUPLE and STRAIN-GAGE CIRCUITS • ROTATING JOINTS GUN-FIRE CONTROLS • DYNAMOTORS etc.

Wide range of grades available for standard and special applications.

Brush holders and coin silver slip rings available for use with Silver Graphalloy Brushes.

Write us for Data Sheets and further information. Outline your problem and we will apply our "40 years' experience" toward its solution.

OTHER GRAPHALLOY PRODUCTS:

Oil-free self-lubricating Bushings and Bearings, Oil-free Piston Rings, Seal Rings, Thrust and Friction Washers, Pump Vanes.

GRAPHITE METALLIZING CORPORATION
1030 NEPPERHAN AVE • YONKERS, NEW YORK

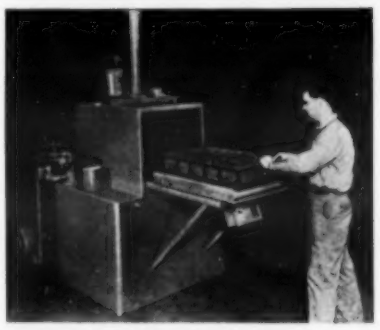
▲ For more details circle **NED-493 F3** on enclosed inquiry slip ▲

MIDGET SOCKET WRENCHES
single hex, double square styles

Offered singly or in four different sets packaged in metal boxes, line of midget size socket wrenches and accessories features ¼-in. square drive. Drop forged from Vitalloy steel, tools are precision made. Sockets are available in six point (single hex) sizes from 3/16 to 7/16-in. and in eight point (double square) sizes from ¼ to ⅜-in. Parts and accessories include sliding T handles, extensions, adaptors and a small ratchet and wood handled screwdriver type spinner. Largest set includes open-end electrical wrenches with openings from 3/16 to ½ in. Made by **Billings & Spencer Co.**, 1 Laurel St., Hartford 1, Conn.

▲ For more details circle **NED-494 F3** on enclosed inquiry slip ▲

AUTOMATIC WASHING UNITS
forced circulation, surface spray skim-off eliminate secondary rinsing



Metal cleaning is speeded up in these forced - circulation washers through automatic cycling and by combining washing and rinsing in a single operation. Made in load capacities of 300, 400 and 700 lb, the welded steel, single-stage units eliminate need for secondary washing and extra work handling by employing an automatic surface spray skim-off. For average load conditions, a 5 to 7-minute cycle is sufficient to clean workpieces thoroughly.

Solution temperatures, work handling and cycles for solution circulation and skim-off are all controlled automatically by presettings on front panel. Swivel-type roller load platforms can be attached to either end of washers for in-and-out operation, or to both ends for straight-through operation. Platforms have solid pans to catch drippings. Solution heating is provided by immersion-type elements, available for gas, electric or steam heating.

Washer units feature smooth exterior lines and heat-resistant paint finish and are easy to clean and maintain. Load areas for the three models are 24 x 36 x 12 in., 24 x 36 x 18 in. and 30 x 48 x 20 in. Made by **Ipsen Industries, Inc.**, S. Main & Ipsen Ave., Rockford, Ill.

▲ For more details circle **NED-495 F3** on enclosed inquiry slip ▲

TEXROPE GROMMET V-BELTS

Performance Records Prove

20-50% INCREASED LIFE!

Performance records in hundreds of installations show that *Texrope* grommet belts last 20-50% longer than ordinary belts. The more severe the service—the bigger the difference in belt life. Here are two big reasons:

1—Laboratory tests show grommet belts stretch only 1/3 as much as ordinary belts. Stretch leads to whipping and snub breaks.

2—Pull apart tests show grommet belts have greater pulling strength than ordinary belts. The cord section of a grommet belt is made by twisting the individual cords into a continuous rope, thereby increasing belt strength.

Try *Texrope* grommet belts and see the difference! Call your nearest Allis-Chalmers distributor or District Office, or write Allis-Chalmers, Milwaukee 1, Wis.

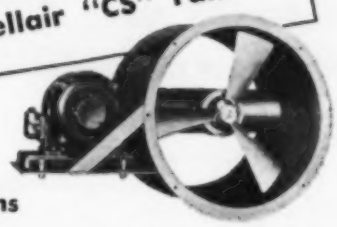
A-3992

Texrope is an Allis-Chalmers trademark.

ALLIS-CHALMERS

▲ For more details circle **NED-496 F3** on enclosed inquiry slip ▲

EXPEL GASES, EXPLOSIVE FUMES AND DUSTS with Propellair "CS" Fans



Widely used under acid and alkali conditions

■ Propellair's "CS" Fan is a rugged, heavy-duty unit for duct installation. The cast aluminum airfoil propeller is housed in a heavy-gauge steel duct section with steel belt guard and internal bearing support. All-welded construction. *R&M All-Weather Motor* located outside airstream. Sizes from 20" to 60", with certified air deliveries of 3750 to 85,000 c.f.m. Also available with corrosion and abrasion-resisting finishes and with ventilated bearings for high temperatures. Write for Bulletin 3082-N.

PROPELLAIR®

DIVISION OF ROBBINS & MYERS, INC., SPRINGFIELD, OHIO

▲ For more details circle **NED-497 F3** on enclosed inquiry slip ▲

for your air control application, too—

Choose Honeywell dampers

THIS BIG multi-louver damper was designed and built by Honeywell for regulating air flow through a cooling tower. It's typical of the almost endless variety of dampers which Honeywell offers for any air-flow control application in industry. Included in the Honeywell line are round and rectangular louver dampers . . . round dampers, right-angle mixing dampers . . . *Grad-U-Flow* outlet dampers . . . fire dampers. All are made "to measure," in practically any desired size . . . with electric, pneumatic or manual operation.

Honeywell dampers embody every possible feature to assure accurate positioning and trouble-free service. Whatever your application, your local Honeywell engineering representative will be glad to offer valuable assistance . . . and he's as near as your phone.

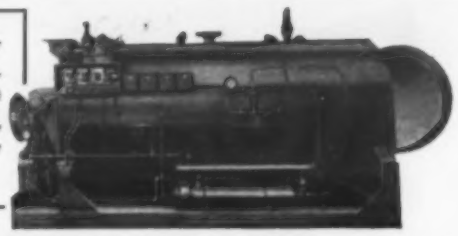
MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4529 Wayne Ave., Philadelphia 44, Pa.

● **REFERENCE DATA: Write for Catalog 8502, "Dampers and damper operators," and Catalog 8305, "Industrial Controls."**

MINNEAPOLIS **Honeywell** BROWN INSTRUMENTS

First in Controls

▲ For more details circle **NED-498 F3** on enclosed inquiry slip ▲



75 hp boiler shown here. Sizes from 20 to 500 hp, high or low pressure.

It takes only 30 minutes . . . to open a CONTINENTAL Boiler . . . for cleaning or inspection

With a CONTINENTAL you'll hold boiler down-time *down* . . . because the clean-out-and-inspection-doors at both ends are hinged and can be handled *easily* by one man.

***Also* with a CONTINENTAL you get *advanced two pass design*. This design eliminates baffles that may break during operation and destroy boiler efficiency. Furthermore, the use of two pass design plus forced draft results in uniform distribution of heat through all tubes. This insures long life because all tubes do equal work. And with the *Continental*, 80% efficiency is *guaranteed*.**

Find out how low Continental is in *initial* and *operating* cost: Write for Catalog 102.

CONTINENTAL is sold, installed and serviced by competent distributors throughout the U.S.

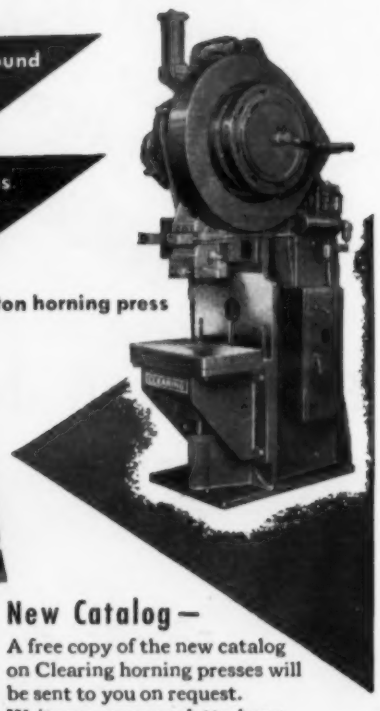
BOILER ENGINEERING AND SUPPLY COMPANY, INC.
Manavon Street • Phoenixville, Pa.
40 Years of Boiler Experience

▲ For more details circle NED-499 F3 on enclosed inquiry slip ▲

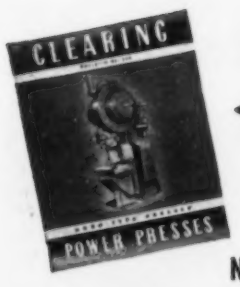
Clearing Horn-Type Presses

A Press of all-round usefulness

45 to 200 tons capacity



60-ton horning press



New Catalog—
A free copy of the new catalog on Clearing horning presses will be sent to you on request. Write on company letterhead.

CLEARING MACHINE CORPORATION • 6494 WEST 65TH STREET • CHICAGO 38, ILLINOIS
HAMILTON DIVISION • HAMILTON, OHIO

▲ For more details circle NED-500 F3 on enclosed inquiry slip ▲

it takes **PULL**

TO GET THIS JOB DONE

. . . And the STAMPCO TUGGER'S got it . . . instantly available at the flick of a finger. Designed to fit your own special pulling or lifting applications with either manual or pushbutton controls, the TUGGER is yours in a large range of models and capacities . . . at suprisingly low cost.

The TUGGER'S single or three phase motor is electrically reversible, and is equipped with dual voltage, high-torque winding for extra heavy starting loads. Your choice of safe, fast-acting electric solenoid, mechanical, or centrifugal brake.

Find out about the TUGGER today. Write for complete descriptive bulletin.

STAMPCO PRODUCTS
ST. ANTHONY MACHINE PRODUCTS CO.
2422 East Franklin Ave., Minneapolis 6, Minn.

▲ For more details circle NED-501 F3 on enclosed inquiry slip ▲

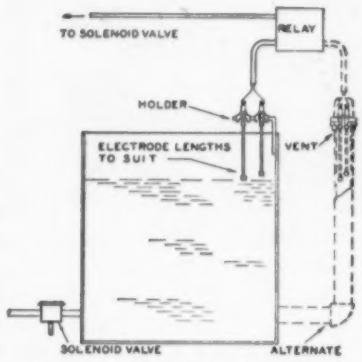
RADIAL ARM CUTTING MACHINES improved to handle large panels

Refinements incorporated in Power Shop line of radial arm woodworking machines includes 3-in. longer radial arm and work table which is 3 in. wider and 4 in. longer. Improvements allow machines to rip center of a 4-ft panel and meet needs of users who work with plywood, composition and plaster board purchased in 4 x 8 ft sheets. Controls have been made more convenient and accessible to the operator. Model MB, available in ½ and ¾ hp, can be furnished un-mounted for easy portability or mounted on steel cabinets for permanent installation. GW machines are made in ¾, 1 and 1½-hp models and have angle-steel legs which bolt directly to machine frame. Made by **DeWalt Inc.**, Dept. P-108, Lancaster, Pa.

▲ For more details circle NED-502 F3 on enclosed inquiry slip ▲

TANK LEVEL CONTROLS available in several sizes

Electrode holder, relay and direct-operated solenoid valve are three standardized components of device for controlling levels in tanks, vats or other vessels. Two stationary electrodes are suspended in the tank where a circuit between them is established or broken by rising or falling of the liquid level. This circuit actuates the relay which, in turn, operates the solenoid valve in either the tank supply or discharge line. Components are available in several sizes for use with all liquid types. Made by **Johnson Corp.**, 812 Wood St., Three Rivers, Mich.



▲ For more details circle NED-503 F3 on enclosed inquiry slip ▲

Power Rheostats

Ward Leonard Electric Co. — Complete line of rheostats for industrial and commercial control applications is described in 24 page illustrated bulletin 60a. Vitrohm pressed steel, Vitrohm rectangular cast iron and face plate rheostats are covered, each available in a variety of sizes, resistance values, current values and tapers, accessories, mountings and enclosures.

▲ For more details circle NED-504 F3 on enclosed inquiry slip ▲

You can provide easy mobility to a variety of industrial products with

IRONBOUND ALL-PURPOSE HANDLING UNITS . . .

POPULAR IRONBOUND FLO TRUK

● An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

The HANDY for furniture and similar items. **The HAULER** for cases, crates, tote boxes, etc. **The HUSKY** for general use throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

▲ For more details circle NED-505 F3 on enclosed inquiry slip ▲

Greater filtering capacity!

new

Houdaille COOLANT C
. . . for all wat used or r in individual machine tool or small cen l system

New Multi-Tube Design Features:

16,000 SQ. INCH FILTERING AREA — Assures complete removal of ch abrasives, dirt and other solid cont nants. Keeps coolant clean, safe re-use indefinitely.

SELF-CLEANING FILTER TUBES — Self-cleaning filter tubes, washed of contaminants during brief backw interval, require no manual cleaning maintenance . . . provide maximum fil ing efficiency at all times.

ECONOMICAL OPERATION— NO PRECOATING OR FILTER AIDS — Practical design provides dependabl trouble-free operation . . . eliminates need for precoating, filter aids, or e pendable filtering media.

Compact, multiple filter-tube unit increases production, reduces downtime, extends tool and wheel life, allows better product finishes with fewer rejects. For complete details write . . .

WORLD LEADIN OIL FILTER

▲ For more details circle NE 6 F3 o

meet the bright new MATH

LOADSTAR

a spectacular perfor in the fine trolley field

★ Top-quality precision wheels are the part o rugged newcomer to the 4" trolley conveyer fie you demand stamina and exceptional performan your overhead conveying equipment, the No. Mathews Loadstar was developed for you. As Bulletin LS1, announcing and describing this trolley conveyer. It was designed to meet the re ments of the most exacting buyer.

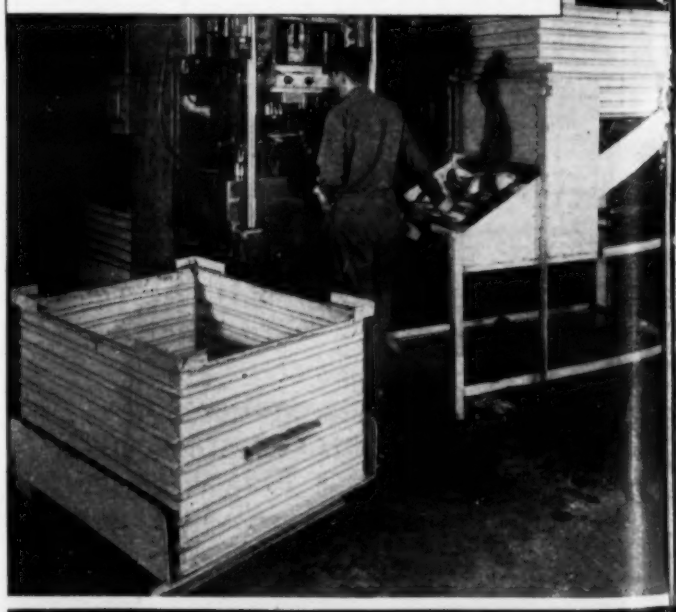
MATHEWS CONVEYORS

GENERAL OFFICES: *Mathews Conveyer Company, Elwood Ci*
PACIFIC COAST DIV. *Mathews Conveyer Co. West Coa, San C*
CANADIAN DIV. . *Mathews Conveyer Company, Ltd., Port Hop*

Engineering Offices or Sales Agencies in Principal American and Canad

▲ For more details circle NE 507

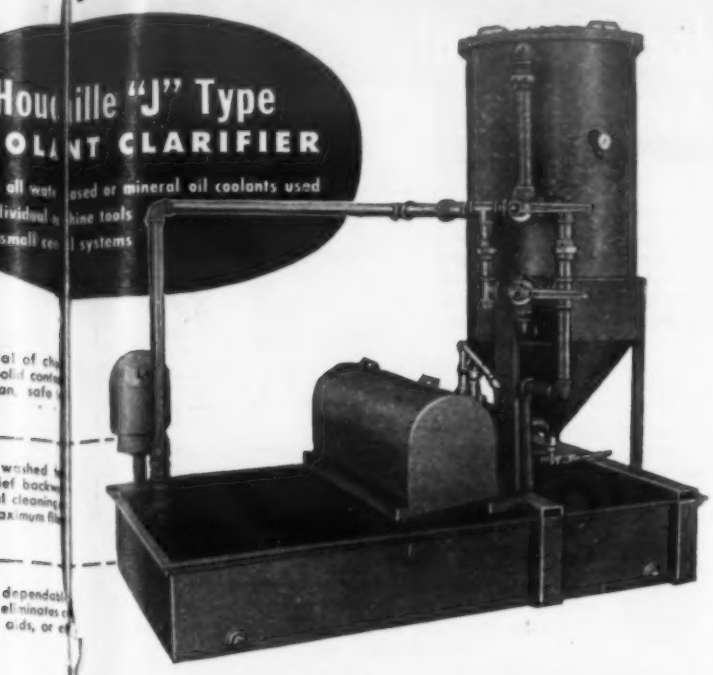
Case studies show:



UNION M
Materials Handli

▲ For more details circle NED-508 F

pacity! • Lower operating cost!



HONAN-CRANE CORPORATION
403 Wabash Ave., Lebanon, Indiana
a subsidiary of HOUDAILLE-HERSHEY CORP.

WORLD LEADING
OIL FILTER MANUFACTURER

rcle NED-506 F3 on enclosed inquiry slip ▲

MATHEWS

TAR

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conveyer field. If
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ompany, Ellwood City, Penna.
. West Coast, San Carlos, Cal.
any, Ltd., Port Hope, Ontario
merican and Canadian Cities
ircle NED-507

50% production increase

WITH WORK-O-MATIC* BOXES AND STANDS!

A sure way to speed up production is efficient, uninterrupted feeding of parts-in-process at the proper working level. And the revolutionary, new Work-O-Matic drop-bottom box, when teamed with the Union Metal Positioning Stand, accomplishes this on job after job...up to 50% increase in production per man per machine.

In addition, versatile Work-O-Matics tier ideally in *less* space than ordinary skid boxes, and greatly simplify dumping or material disposal operations. For *all* the facts, write to The Union Metal Manufacturing Company, Canton 5, Ohio.

*Patent No. 2,445,038. Other patents pending.

ON METAL
Handling Equipment

rcle NED-508 F3 on enclosed inquiry slip ▲

POWER HAND DRILL
in speeds from 600 to 5000 rpm

Available with standard chuck speeds from 600 to 5000 rpm, Mighty Midget drills with ¼-in. capacity in steel and ½-in. in hard wood are lightweight, compact and easy to handle in close quarters. Drills feature ball bearings and helical gears for continuous service, balanced design, pistol-grip handle, dirt and grease resistant die-cast aluminum housing and three-jaw geared rubber-flex chuck with key. Universal motor operates on 110-v direct or alternating current, 60 cycles or less. Made by **Stanley Electric Tools,** 104 Elm St., New Britain, Conn.

▲ For more details circle NED-509 F3 on enclosed inquiry slip ▲

CENTRAL COOLING UNIT
made in 2 and 3-ton sizes

All elements of both 2 and 3-ton central cooling units are easily accessible for servicing without removing the entire unit. Also featured are thermally activated multiple feed expansion valve and a receiver for supply of Freon 12 refrigerant. Easily cleaned condenser can be connected to city water system or cooling tower. Compressor is spring mounted and isolated from refrigerant lines by vibration eliminators. Protection is furnished by thermal overload device and high-low pressure control. A thermostat or humidistat is electrically connected with the solenoid valve. Units measure 22 x 37 x 47 in. Made by **Iron Fireman Mfg. Co.,** Dept. N.E.C., 3170 W. 106th St., Cleveland 11, O.

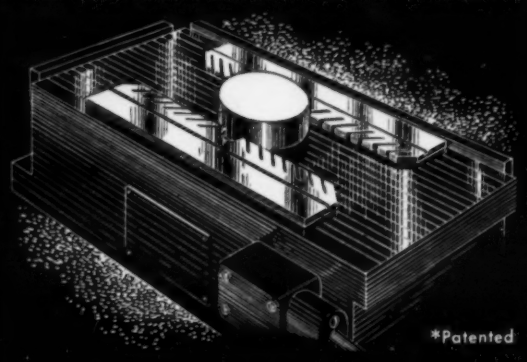
▲ For more details circle NED-510 F3 on enclosed inquiry slip ▲

Coil & Sheet Slitters

Yoder Co.—Basic information on design, selection and operation of coil and sheet slitting equipment, with time studies and analysis of operating cycle is presented in new company literature. A discussion of coil handling and scrap disposal, plus engineering data on rotary gang slitters, uncoilers, scrap choppers, recoilers, coil cars and unloaders are featured.

▲ For more details circle NED-511 F3 on enclosed inquiry slip ▲

PLASTIC . . . MAGNESIUM . . . FIBRE
MONEL METAL . . . HARD RUBBER
. . . other rigid non-magnetic materials
CAN BE HELD ON MAGNETIC CHUCKS!



*Patented

Magna-Vise* MAKES IT SIMPLE!

Get full details on this revolutionary shop-proved device . . . write Dept. ND-63

Hanchett MAGNA-LOCK CORPORATION
Magna-Lock
Magnetic Chucks and Devices
BIG RAPIDS • MICHIGAN, U. S. A.

▲ For more details circle NED-512 F3 on enclosed inquiry slip ▲

SENSITIVE, PRECISE PRESSURE-VACUUM CONTROLS

TYPE G9

The pressure vacuum control illustrated is an accurate, highly sensitive, precision-built unit. It may be had with an internal or external, calibrated or uncalibrated adjustment. It is water-tight unless the adjustment is external.

It is designed for applications requiring constant repeatability of any on-off differential between .2" and 10" w.c. For full details send for bulletin #5-1.

UNITED ELECTRIC CONTROLS COMPANY
81 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

▲ For more details circle NED-513 F3 on enclosed inquiry slip ▲

CHANGE RESTROOM FEAR into EMPLOYEE APPRECIATION with Sanitor

SEE FOR YOURSELF ABSOLUTELY FREE!

TISSUE TOILET SEAT COVERS

HAVE HAPPIER EMPLOYEES ... BETTER WORKERS

As all personnel executives know, happier workers are more efficient, produce more. No matter how clean you keep your restrooms, there is always a lingering fear of infection. Sanitor tissue toilet seat covers assure hygienic conditions. Employees, visitors too, appreciate this indication of respect for their decency.

CUT RESTROOM MAINTENANCE COSTS; END PLUMBING STOPPAGES

Sanitor tissues *automatically* flush away, *can't* clog drains. Eliminate plumbing breakdowns caused by use of newspaper, paper towels, etc., as improvised seat covers.

ELIMINATE WASTE

Stop wasteful use of toilet tissues and paper towels as makeshift seat covers. This saving *alone* more than pays for Sanitor covers!

Limited to industrial users only! We'll send you free of charge, with no obligation whatsoever: (1) An attractive Sanitor metal dispenser with exclusive one-at-a-time ejector; (2) A generous supply of Sanitor tissue toilet seat covers. It's yours *permanently*—you need *not* return it! We want you to see how efficiently and economically Sanitor solves serious restroom problems.

WRITE for free Sanitor dispenser, tissue toilet seat covers and literature.

SANITOR MFG. CO., Dept. 7
Kalamazoo, Michigan

▲ For more details circle NED-514 F3 on enclosed inquiry slip ▲

CANNON PLUGS for hermetic sealing

SUB-MINIATURE U Series plugs for miniature switches, relays, transformers, amplifiers and other sealed components have steel shells and Silcan insulation, cable relief and moisture resistant sleeve. Bayonet-lock coupling method. Rated 1700 v. D.C.; 5 a.—Have 3, 6, and 12 contacts—one plug style and two receptacles. Refer to U-2 Bulletin.

GS TYPES (Top, right) and RKH Types (Bottom, right) have fused vitreous insulation providing a true hermetic seal for relays, position indicators, etc. Cadmium finish steel and bleached Iridite shells with Dural coupling nut. Resist thermal shock—300°F. to 600°F.; pressures 200 to 900 psi—specials to 7500 psi. See GS-3 section in AN-8 Bulletin and KH-1 section in K Bulletin.

CANNON ELECTRIC
Since 1915
FACTORIES IN LOS ANGELES, TORONTO, NEW HAVEN
Representatives in principal cities. Address inquiries to Cannon Electric Co., Dept. F-113, Los Angeles 31, California.

▲ For more details circle NED-515 F3 on enclosed inquiry slip ▲

TOOL of a THOUSAND USES

TRI-SAW, All-Purpose, Portable Power Hacksaw

Still the same low price. ONLY $37.50

Makes Any Cutting Job Quick . . . Easy . . . Economical

Simply attach Tri-Saw to any 1/4" or 5/16" heavy duty drill—then zip through wood, sheet metal, heavy metal, nails, pipe and what have you, in seconds! Use this sensational time and work saving tool and you'll say it's the best all-purpose saw on the market. Only Tri-Saw gives you these exceptional features:

- No side torque or spin
- One shot lubrication
- Completely replaceable high speed bearings
- Improved dirt seal
- Needs no starting hole

ATTENTION JOBBERS AND DEALERS . . . Profitable opportunities for aggressive distributors. Write for details.

Send for free descriptive circular

MANUFACTURED BY
TRI-SAW CORPORATION
2207 HANLEY INDUSTRIAL COURT • ST. LOUIS 17, MISSOURI

For more details circle NED-526 F3 on enclosed inquiry slip

AGASTAT

Compact . . . Dust-Proof

TIME DELAY RELAYS

solenoid actuated—pneumatically timed

Introduces time delays into a-c or d-c circuits. Easily adjusted to provide delays ranging from 0.1 second to five or more minutes.

The AGASTAT is small, light, and operates in any position. Dust-proof timing chamber assures long operating life with a minimum of maintenance.

Write for Bulletin. Dept. A1-65.

AGA

Division of Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth 3, New Jersey

For more details circle NED-527 F3 on enclosed inquiry slip

EVERY SHOP NEEDS THIS
LOW-COST PRECISION MILL!

BENCHMASTER
LOW COST MILLING MACHINE

does the work faster, easier, accurately, and economically!

MILLS VERTICALLY OR HORIZONTALLY by changing spindle assemblies, DRILLS, GRINDS, TURNS. Chatter-free, long life, high-precision.

Write for FREE literature.

benchmaster PUNCH PRESSES AND MILLERS

1835 West Rosecrans Avenue, Gardena, California

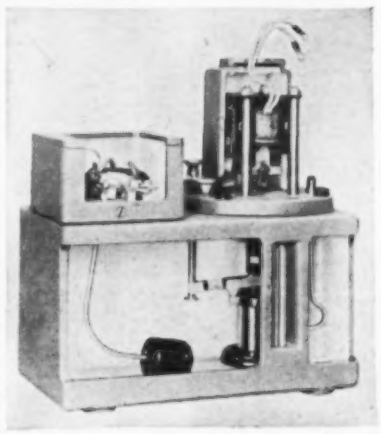
For more details circle NED-528 F3 on enclosed inquiry slip

BENDING MACHINES
improved design minimizes distortion

Redesigned hydraulically operated bending machines distribute stress and strain more evenly and keep mechanical distortion to a minimum. Bending table has been changed from fabricated steel to ribbed alloy casting for greater strength, and the gear housing is now integrated into the casting, insuring positive alignment. Motor power has been boosted from 2 to 3 hp, foot controls now supplement the hand controls, and the cabinet is fabricated in heavy steel plate instead of sheeting. Made by **O'Neil-Irwin Mfg. Co.,** 582 Eighth Ave., Lake City, Minn.

For more details circle NED-529 F3 on enclosed inquiry slip

AUTOMATIC LUBRICATOR
solenoid operated, can be applied to almost every type of machine



Control flexibility is one of the features of the type E solenoid-operated lubricator which can be applied to almost all machines and mounted in any location. It requires no connection to a moving element of the machine. It can be actuated by trip switches, existing control circuits, electric timer controls or push buttons. It will deliver from 6 to 24 drops of oil per stroke, and maximum frequency of operation recommended is four strokes a minute. Temperature rise is within safe limits with the solenoid cover in place, and the unit is available with either a 3 or a 6-pint capacity reservoir.

It can be used on machine tools, metalworking machinery, packaging, bottling, printing, textile, woodworking and special and general industrial machines. Available as an extra is a float-switch control that actuates a visible or audible alarm when the oil supply is low, and that will shut off the machine if the supply is not replenished. Made by **Bijur Lubricating Corp.,** Dept. N, 151 W. Passaic St., Rochelle Park, N. J.

For more details circle NED-530 F3 on enclosed inquiry slip

Where to use INSUL-MASTIC Coatings

These *Superior* coatings can end many problems in your plant for many years to come.

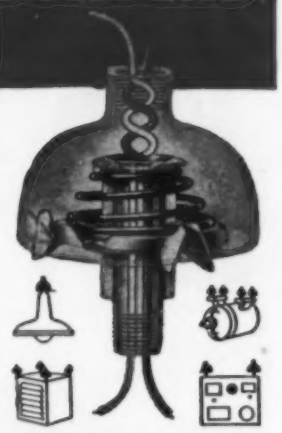
- They prevent corrosion from moisture, acids and other chemicals!
- They control condensation or sweating!
- They insulate!
- They stop walls and roofs from leaking!
- They keep insulation dry and protected!
- They deaden sound!
- They attractively resurface old buildings!

A 44-page catalog will give you more ideas for employing INSUL-MASTIC *Superior* coatings. Write for it today.

Insul-Mastic
CORPORATION OF AMERICA
Oliver Building • Pittsburgh 22, Pa.
Representatives in Principal Cities

For more details circle NED-531 F3 on enclosed inquiry slip

SHOCK ABSORBERS for Electrical Assemblies



THOMPSON shock absorbers provide shockproof mounting and long service life for lighting fixtures, meters, fans, unit heaters, motors, instrument panels, process controls, etc. These durable spring-loaded units permit angular as well as vertical movement to assure maximum vibration absorption.

Utilizing threaded connections for ease of installation, **THOMPSON** shock absorbers have only four component parts: malleable cast iron bell-shaped body, open spring plate, stem, and a powerful steel spring. All parts are treated for corrosion resistance. In addition, unit's design prevents damage to conductor wires and assures complete safety in event of spring failure.

Light and heavy-duty models are available in range of sizes to support loads up to 80 pounds.

FOR COMPLETE DATA, WRITE TODAY FOR CATALOG NO. 50

811-TE

THE THOMPSON ELECTRIC CO.
1138 Power Avenue • Cleveland 14, Ohio

For more details circle NED-532 F3 on enclosed inquiry slip

NEW

Portable, Hydraulic
"GUILLOTINE"
CUTS 1¼" WIRE ROPE!

Guillotine Model 10A with Integral Hand Pump

Tremendous cutting power . . . 22½ tons thrust!

Light weight . . . only 45 lbs. net. Take the tool to the job.

Positive blade retraction . . . will not jam.

Easy hand pump action.

ALSO AVAILABLE WITH
Electric or Compressed Air operated pump

Automatic, power-operated pump assemblies available that are also portable or may be permanently mounted for production application. Special high-power pump available for production cutting over 200 cuts per hour.

Write For Catalog. Dept. NED-6

MANCO MFG. CO.
BRADLEY, ILLINOIS

For more details circle NED-533 F3 on enclosed inquiry slip

STOP COSTLY HAND LOADING

RITE-HITE Adjustable Loading Docks speed up the flow of material in and out of your plant. Fork or lift trucks move directly from the plant into the carrier, handle material only ONCE. You get increased dock capacity, safety, and efficiency, when you specify **RITE-HITE.**

RITE-HITE requires

- √ *No costly machinery* √ *No lubrication*
- √ *No fluid or electrical controls*
- • *Write for literature*

LOOMIS MACHINE CO. RITE-HITE DIVISION
Dept. 14 CLARE, MICHIGAN

For more details circle NED-534 F3 on enclosed inquiry slip

BRAND NEW all-purpose CONE SEAL with TEFLON*

*DuPont Trade-mark for tetrafluoroethylene resin

"JOHN CRANE" TYPE 19 CONE SEAL WITH TEFLON

1. Temperature range: −100° to +450°F.
2. For all services, including water, oils, acids.
3. Pressures to 200 psi.
4. Has all the plus requirements of a good seal: positive drive, axial and radial movement, free sliding flexible spring action to compensate for wear of carbon washer, ease of application and replacement, long life, compactness.
5. Packaged seal, presently designed for small shafts ¼, ⅜, ½, ⅝, ¾" dia.
6. Tooled for the high production field. Has a wide field of application.
7. Can be manufactured at an economical price.
8. Manufactured in the "pressed-in" type where seal unit is held stationary.

In the early stages of any seal application we might be helpful. For instance—the metallurgy of a seal is important; you may have space limitations; or you may have r.p.m. problems. These are only a few points. Drop us a line.

Crane Packing Company, 1811 *Cuyler Avenue, Chicago 13, Illinois.*

JOHN CRANE CRANE PACKING COMPANY

For more details circle NED-535 F3 on enclosed inquiry slip

Garland Rawhide Mallets and Hide-Faced Hammers are made of resilient Water Buffalo Hide, the toughest rawhide known. Will not damage steel, iron, brass, aluminum or other soft metals.

Longer wear and uniformly exact size result from compression under many tons pressure.

Extra faces fit securely without grinding.

Write for free folder listing sizes, weights, and prices.

We will send you the name of your local dealer on request.

Garland MFG. CO. SACO, MAINE

Manufacturers of Rawhide Hammers, Mallets, Loom Pickers

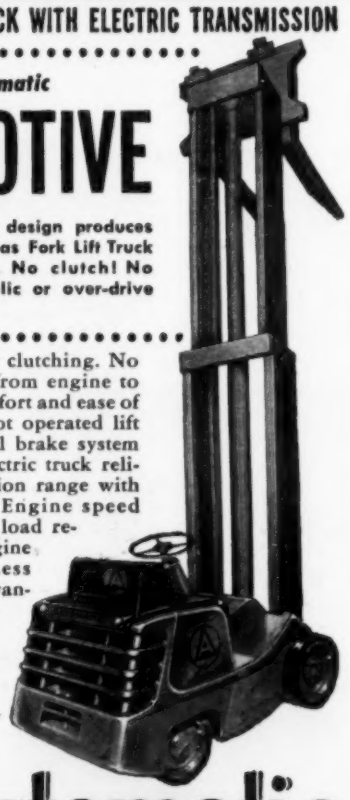
For more details circle NED-536 F3 on enclosed inquiry slip

AMERICA'S FIRST GAS TRUCK WITH ELECTRIC TRANSMISSION

The new Automatic

DYNAMOTIVE

Entirely new engineering design produces America's first and only Gas Fork Lift Truck with *Electric Transmission.* No clutch! No gears to shift! No hydraulic or over-drive mechanism.



No engine shock due to clutching. No mechanical connection from engine to drive unit. Maximum comfort and ease of operation for driver. Foot operated lift and tilt. Interlocked dual brake system for maximum safety. Electric truck reliability. Infinite acceleration range with minimum power loss. Engine speed automatically adjusts to load requirement. Minimum engine wear—maximum life! Less fuel consumption. All advantages of torque converters and overdrive without mechanical devices. Minimum down time. Maximum accessibility. No aisle projections.

For further data on the new Dynamotive Truck, write:

Automatic®

61 W. 87th St., Dept. H-3 Chicago 20, Ill.

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC DRIVEN INDUSTRIAL TRUCKS

For more details circle NED-537 F3 on enclosed inquiry slip

MOUNTING ADAPTOR for die feeds has adjustable feed

Quick and simple adjustment of alignment of the stock feed line with the die and also alignment of the feed with the set edge of the die is possible with the adjustable feed mounting adapter. Made for use with several models of Dickerman die feeds and the Rol-Di-Feed, the unit minimizes setup time. It consists of a mounting base and a feed mounting member that is drilled and tapped to accommodate all feed sizes. Vertical adjustment is through a built-in screw jack, while horizontal adjustment is by slotted screw holes in the mounting base. Made by **H. E. Dickerman Mfg. Co.,** Dept. ED, 321 Albany St., Springfield, Mass.

For more details circle NED-538 F3 on enclosed inquiry slip

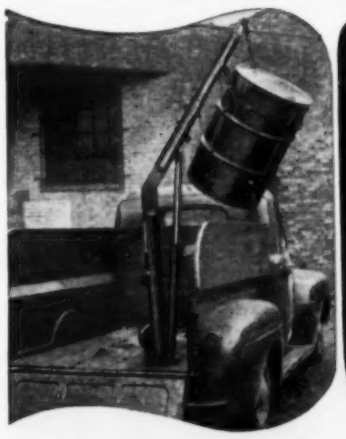
ADJUSTABLE SPEED DRIVE electronic unit developed for low horsepower applications

Now available in ¾, 1, 1½, 2 and 3-hp ratings, V*S, Jr. improved variable speed drives are packaged electronic units. They provide stepless adjustable speeds from alternating current circuits and afford flexibility for driving wide range of machines and processing units. Constant torque variable speed output is available from 270 to 2300 rpm, and as low as 75 rpm for setting-up operations, light loads or intermittent duty.

Control station, housed in NEMA No. 1 enclosure, has start-stop buttons, a jog run selector switch and a speed adjuster. Control unit can be mounted on wall or machine and is adaptable for remote location. Drive unit is V*S motor designed for adjustable speed service.

Drive motor is available with all types of enclosures and mountings. Optional equipment and accessories include three types of control stations: foot pedal unit for starting, stopping and speed control; explosion-proof for use in hazardous atmospheres; and reversing drum switch. Single, double and triple reduction gearmotors are available also. Made by **Reliance Electric & Engineering Co.,** 1082 Ivanhoe Rd., Cleveland 10, O.

For more details circle NED-539 F3 on enclosed inquiry slip



SPEED LOAD HANDLING for Truck, Shop or Machine

UNIT *utility* HOIST

Hydraulically operated Unit Utility Hoists can speed and ease handling of 1000 to 2000 lb. loads around your trucks, shop or machines, and the hoist itself can be switched from the truck, floor or machine mount in seconds. Three lifting points and boom extension give a wide working range. Hoist swings 360° on truck and locks securely in traveling position. Many uses in every plant.

Write today for latest information

UNIT MFG CO. 1223 Harmon Place Minneapolis 3, Minnesota

For more details circle NED-540 F3 on enclosed inquiry slip

Save Time... Labor... Material with **BEVERLY** metal cutting **SHEARS**

throatless SHEARS

Make any cut—straight, irregular, curved. Exclusive design permits turning work any direction while cutting. 4 models—cap. to 3/16".

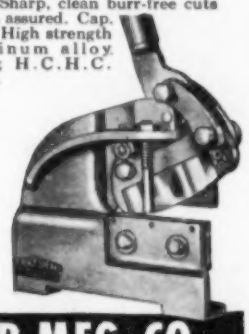
Inside SLOTTER

Makes cuts up to 8" inside edge of sheet. Sharp, clean burr-free cuts always assured. Cap. 16 ga. High strength aluminum alloy body; H.C.H.C. blades.

slitting SHEAR

New "SS" Series—easier cutting with compounded linkage. 3 models—cap. to 3/16"; trimming capacity to ¼" mild.

See your Beverly Distributor. Write for FREE illustrated Bulletin.



Beverly SHEAR MFG. CO.

3016 W. 111th STREET • CHICAGO 43, ILLINOIS

For more details circle NED-541 F3 on enclosed inquiry slip

STAMPINGS PILOT RUNS

SPECIAL METHODS PRODUCE SMALL QUANTITIES AT MINIMUM COST.

When you need just a few pieces — when you're still in the experimental stage—then an economical, cooperative source of parts is important.

Our **Machine-Cut Method** avoids custom die costs completely by use of special machinery which skillfully fashions pilot quantities.

Careful calculation determines the point at which labor costs warrant our **Short Run Method,** which uses simple contour dies and special purpose presses.

Best of all, when you get into large quantities on the experimental part, our STAMPINGS DIVISION is still your most economical producer, using our **Production Method.** Thus all three methods are at your disposal. And impartial choice of method *saves money* for you!

SEND FOR INFORMATIVE LITERATURE

STAMPINGS DIVISION

LAMINATED SHIM COMPANY, INC.

2306 Union Street, Glenbrook, Conn.

For more details circle NED-542 F3 on enclosed inquiry slip

FREE BULLETIN on SURFACE ROUGHNESS tells . . .

- **How to establish roughness specifications** for parts that are in production — and for parts of new design.
- **How to show roughness specifications** on drawings and shop prints.
- **Practical advantages** of surface roughness specification.

ALSO gives tips on MEASURING surface roughness in the shop—and briefly tells why most plants use the PROFILOMETER for doing this.

Write Today!

Ask for BULLETIN L21.

Profilometer is a registered trade name.

MMCo MICROMETRICAL MANUFACTURING COMPANY
345 S. MAIN ST. ANN ARBOR 9, MICHIGAN

For more details circle NED-543 F3 on enclosed inquiry slip

GET THE FACTS ON THE NEW LEWIS "6" PLASTICS MOLDING MACHINE...

FEATURING 200-TON HYDRA-LOCK CLAMP!

Outstanding new LEWIS "6" plastics injection molding machine provides the speed, economy, silent operation and compact construction of a lightweight model . . . yet handles a wide range of parts having large projected areas. Exclusive feature of this machine is the new HYDRA-LOCK high-speed 200-ton clamping mechanism . . . the safest, most powerful mold clamping device available today! Other features include injection pressures up to 15,100 psi, large platens, compensating feed, fast opening die-lock mechanism, automatic molding cycle and minimum maintenance.

Write today for this new 8-page illustrated catalog.

Lewis Welding & Engineering Corp.
14 Interstate Street, Bedford, Ohio

Gentlemen:
Please send me Bulletin No. 102 describing the new LEWIS "6" plastics injection molding machine.

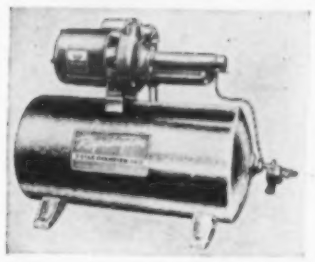
Name _____ Title _____
Company _____
Street _____
City _____ Zone ____ State _____

1227-LW

LEWIS
THE LEWIS WELDING & ENGINEERING CORPORATION

For more details circle NED-544 F3 on enclosed inquiry slip

JET PUMP SYSTEM for deep and shallow wells has four volutes in pump



Conversion of the 3-Star Champion jet water system from shallow to deep well is possible with the same ejector equipment. Packaged system has four volutes in a small efficient pump. Unit has ⅓-hp motor and convertible ejector and air charger, mounted on 13-gallon horizontal heavy duty galvanized tank. Pump has bronze impeller, brass venture and nozzle and rotary seal.

Champion Mid-Way model, when used on shallow wells, provides capacities up to 600 gph. On deep wells, settings are up to 50 ft. Hi-Deep model provides pressures up to 70 psi on shallow wells and it has settings up to 70 ft deep. Other models are available with ½-hp motors and tanks ranging up to 42 gal. Made by **Dayton Pump & Mfg. Co.**, Dept. NED, 500 N. Webster St., Dayton 1, O.

For more details circle NED-545 F3 on enclosed inquiry slip

CIRCUIT PROTECTOR clears shorts or fault currents

Use of the form 208 Amp-trap on low voltage alternating current 120/208-v networks permits benefits of continuity of service, small investment and easy expansion of the system, normally subject to dam-

age caused by short circuits or fault currents. The device stops a short circuit current before it can reach the crest of the loop of its first ¼-cycle, even though the available crest current value is as high as 330,000 amp. It is designed for entrance switch service, underground network conductors, distribution and panel boards and is built in ratings from 200 to 5000 amp. It is easily applied by a variety of mountings. Made by **Chase-Shawmut Co.**, 382 Merrimac St., Newburyport, Mass.

For more details circle NED-546 F3 on enclosed inquiry slip

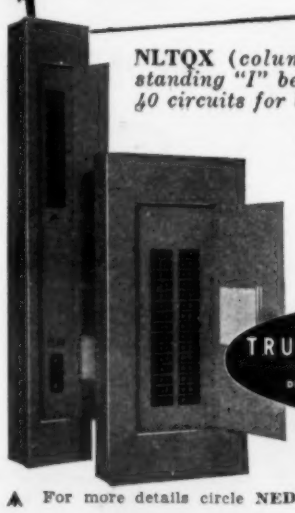
Resistance Welding Products

Ampco Metal, Inc.—Described and illustrated in 24-page catalog RW-1a are resistance welding tips and holders, seam welder wheels, seam welder shafts and bushings and flash, butt, barrel and projection welding dies. Tables and charts give physical properties, applications and RWMA specification data.

For more details circle NED-547 F3 on enclosed inquiry slip

Check these features of
Trumbull NLTQ Lighting Panelboards

- Incorporate Trumbull TQL plug-in circuit breakers with thermal-magnetic trip, trip-free action, trip indicating position, manual re-set.
- Readily removable interiors, with busbars molded in plastisol (run cooler than in open air).
- Protected barriers, integral with front.
- Breaker knockouts in front panel to provide for future circuits.
- Compact boxes with adequate knockouts and gutters.



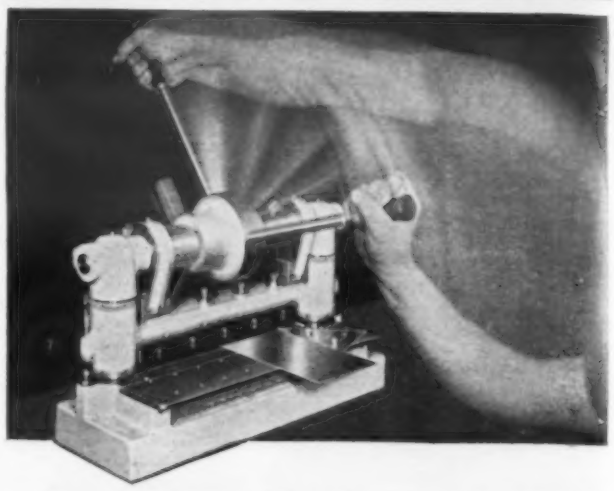
NLTQX (column type) Panelboards fit standing "I" beam. Available in from 4 to 40 circuits for both 3- and 4-wire services.

NLTQ Panelboards: Available in from 4 to 42 circuits for both 3- and 4-wire services with lugs only, or 50 to 225 ampere breakers in mains and 10 to 50 ampere breakers on branches. AC only.

TRUMBULL ELECTRIC
DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONN.

Sold everywhere through leading distributors. Let us mail you Bulletin TEB-14.

For more details circle NED-548 F3 on enclosed inquiry slip



Want PRECISION SHEARING at *HIGH SPEED?*
Here's Why You'll Want a Versatile DI-ACRO SHEAR

- **PRECISION**—strips less than .025" wide accurately sheared, parts exactly duplicated.
- **CUTTING SPEED**—rivals that of power machines.
- **RATED CAPACITY**—16 gauge.
- **EASY TO OPERATE**—a woman can operate it.
- **PORTABLE**—easy to move.
- **FOUR MODELS**—6 to 24 inches wide. Four power models.
- **ENGINEERING SERVICE**—always at your disposal.
- **RUGGED**—one year warranty.
- **DELIVERY**—excellent.
- **COST**—that's good too.

SEND FOR 32-PAGE CATALOG

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MFG. COMPANY
354 8th Ave. Lake City, Minn.

For more details circle NED-549 F3 on enclosed inquiry slip

Get astonishing POWER and other unique advantages with GAST rotary AIR MOTORS

See our CATALOG in SWEET'S FILE for PRODUCT DESIGNERS

Write Gast, stating your specific problem or mention model that interests you.

Model 8 AM Up to 4 H.P. —only 6½" high (less muffler).

Model 4 AM Up to 1 H.P. —only 5¾" high (less muffler).

Model 1 AM Up to 1/6 H.P. —only 2½" dia., weighs 1½ lbs.

Model 2 AM Up to ½ H.P. —weighs approx. 5¼ lbs.

FOR YOUR ORIGINAL EQUIPMENT APPLICATIONS . . .

Gast rotary-vane Air Motors may solve tough problems on **your** product! They're lower in first cost, variable in speed, explosion-proof, quick starting, **amazingly** compact and light compared to electric motors.

Four sizes available, reversible and non-reversible ball bearing types, several mounting styles, speeds to 12,000 RPM. Numerous accessories. "Air may be your Answer!"

Original Equipment Manufacturers for over 25 years

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS
(TO THREE H.P.) (TO 30 LBS.) (TO 28 INCHES)
GAST MANUFACTURING CORP., 115 Hinkley St., Benton Harbor, Mich.

For more details circle NED-550 F3 on enclosed inquiry slip

Need Holes in Concrete?

YOU GET MORE HOLES WITH TERMITE DRILLS!

Penetrate toughest concrete with less pressure and with less drill wear . . . with TERMITE DRILLS. Pulverizing action eliminates objectionable noise. Exclusive construction gives you cleaner, more accurate holes in less time and at less cost. Use with standard electric drills or air motors.

Free Factory Resharpening

Write for FREE literature and prices

TERMITE DRILLS

Lengths up to 36". Standard diameters from 3/16" to 5". Other diameters up to 8" on special order.

TERMITE DRILLS, INC.
84 N. Lotus Ave., Pasadena 8, California

For more details circle NED-551 F3 on enclosed inquiry slip

"We chose
TOKHEIM PUMPS
and IMPROVED OUR
LIQUID HANDLING!"

It pays to standardize on TOKHEIM Hand Pumps. They have no equal for safe, easy handling of liquids. Stop wasteful dripping. Reduce fire and accident hazards. Save on drum storage space. Handle a wide variety of products. Available in hose and spout models—for drums, skid tanks and underground installations. Call your dealer or your Tokheim representative.

Write factory for literature.

PUMPS MANY LIQUIDS

Alcohols—ammonia—cutting and flushing oils—lacquer thinners—aromatic, chlorinated and petroleum solvents—wood and vegetable oils—and others.

QUALITY TOKHEIM DOUBLE-ACTION HAND PUMPS

General Products Division
TOKHEIM OIL TANK AND PUMP COMPANY
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT
1656 WABASH AVE. SINCE 1901 FORT WAYNE 1, IND.
Factory Branch: 1309 Howard St., San Francisco 3, Calif.

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MAXAW 800
magic ◔ pivot does it!

HEAVY DUTY—ALL BALL AND ROLLER BEARING—INDUSTRIAL QUALITY

$89.50

Out-performs saws selling up to $145!

Here's the saw that bears down with that *extra cushion* of power and sings through the tougher cutting jobs in maintenance and industrial sawing. Cuts full 2-in. rough or semi-dressed lumber *with blade to spare*—2¾" on a straight cut, and 2 9/32" on a 45° bevel. **magic • pivot** does it!

And **magic • pivot** cuts down saw weight... MAXAW 800 weighs only 14 lbs.—⅓ less than conventional 8-in. saws... puts less handicap on men and muscles. Get all the facts—do more—save more—with **magic • pivot** MAXAW 800!

Free Pamphlet!—Find out what **magic • pivot** can do for you. Send for Pamphlet N-63.

Cummins-Chicago Corp.
DIVISIONS
Cummins INDUSTRIALS • Cummins Portable Tools
4740 N. Ravenswood Ave. • Chicago 40, Illinois
IN CANADA: 334 Lauder Ave., Toronto

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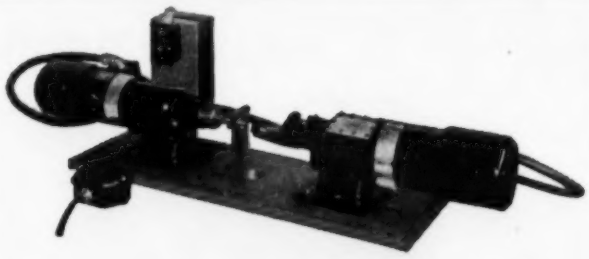


Standard Opposed Drilling Machine

THIS Standard Govro-Nelson Drilling Machine is supplied completely wired so that the two Automatic Drilling Units work simultaneously from a momentary contact palm or foot switch with a dowel hole for fixture location. *(Fixture not included.)*

With the Units adjustable endwise up to 18" between chucks, it can be used as a centering machine. By mounting a simple hand-index fixture, it can be used for drilling wire holes in cap screws. Two opposed holes can be drilled at once. A riser plate permits the drilling of offset holes.

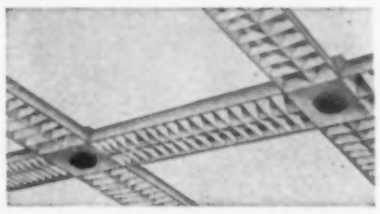
Why not drill two holes at the cost of one with this standard, versatile machine? Write for literature, sending samples and part prints.

GOVRO-NELSON CO.
1933 Antoinette
DETROIT 8, MICH.

Automatic DRILLING UNIT

▲ For more details circle NED-554 F3 on enclosed inquiry slip ▲

FLUORESCENT LIGHTING SYSTEMS
many combinations are possible



High flexibility and economy are afforded by Astra-Lite fluorescent luminaires since the two primary units that make up the system can be combined into many layout arrangements. The steel twin-lamp luminaire, furnished in 4 to 8-ft lengths is versatile and is available in many styles. The second unit is a square element (illuminated, non-illuminated or gimbal ring spot) which serves as a connector, corner, or intersection. Existing outlets can be used without additional wiring. Made by **Metalcraft Products Co.**, Clearfield & Mascher Sts., Philadelphia 33, Pa.

▲ For more details circle NED-555 F3 on enclosed inquiry slip ▲

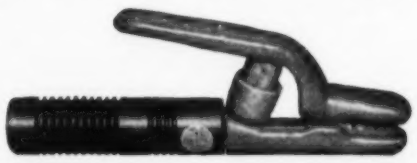
INDUSTRIAL CLUTCH
air-operated heavy duty type

Fully ventilated rigid type clutch is designed for heavy duty service with high starting loads and sustained slippage and is not adversely affected by generated operating heat. Expanding operating tube can be replaced without removing clutch from shaft, and is completely isolated from the heat-generating friction surface. Riveted friction lining is replaceable. Unit is made in 12 in. to 42 in. drum diameters with torque capacities from 27,000 in. lb to 380,000 in. lb by **Federal Fawick Corp.**, Fawick Airflex Div., 9900 Clinton Rd., Cleveland 11, O.

▲ For more details circle NED-556 F3 on enclosed inquiry slip ▲

ELECTRODE HOLDER
weighs 19 oz, has 250-amp capacity

Heat-treated 98 per cent copper alloy is used in the construction of model AW-C electrode holder, giving it strength, hardness and conductivity. It takes electrodes from 1/16 through 7/32 in. and soldered or brazed cable sizes through 1/0. Cables through No. 1 may be clamped in place. A thermosetting material is utilized for jaw insulation. Made by **Jackson Products**, 31741 Mound Rd., Warren, Mich.



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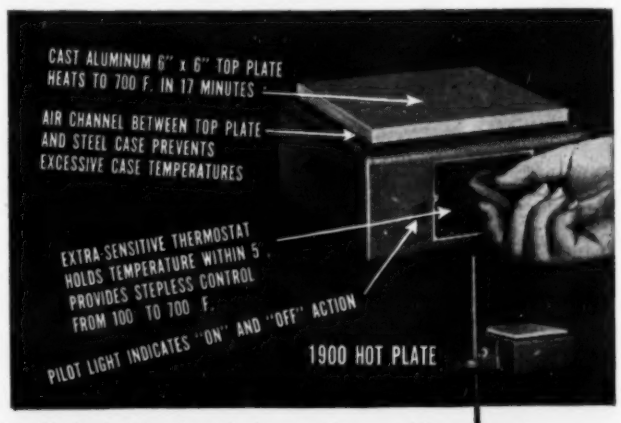
VERSATILE, HANDY HOT PLATE

for both exacting requirements and general heating in Laboratories and Plants



You'll find this the ideal unit for a wide variety of critical and routine laboratory uses. Wide temperature range, exceptionally close control—less than 5° F variation. Completely variable control over full temperature range. Compact, convenient — plugs into 110 V., 50/60 Cy. Only $19.75. Write for literature and nearest dealer's name.

TEMCO® HOT PLATES & FURNACES

THERMO ELECTRIC MFG. CO., 484 HUFF ST., DUBUQUE, IOWA

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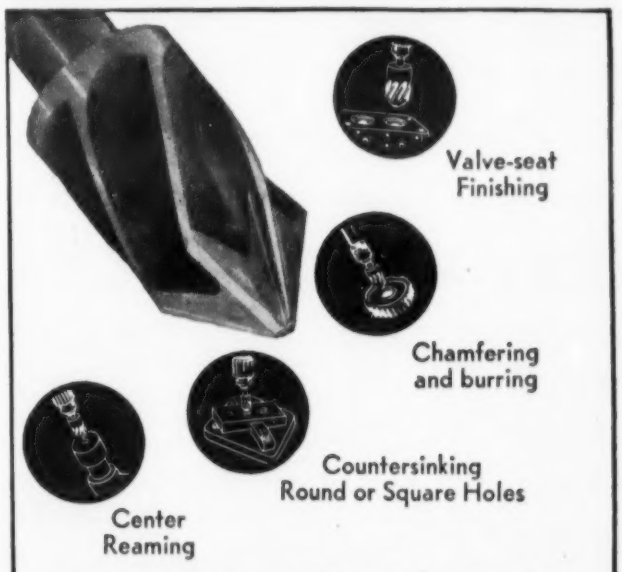
MERRILL MATERIALS HANDLING DEVICES

3-M-2

MERRILL BROTHERS
56-13 ARNOLD AVENUE MASPETH, N. Y.

▲ For more details circle NED-559 F3 on enclosed inquiry slip ▲



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FORD "Quad"
HSS chatterless countersink

Ford's exclusive job-engineered flute design, precise concentricity, greater rigidity, lower cost add up to faster production, better production, more profitable production. No secondary burs. Ideal for heavy duty applications. Write for details.

FORD "standard"
chatterless countersink

Engineered by Ford for peak operating efficiency commensurate with lowest possible initial tool cost. Ford's know-how makes possible a competitively priced tool without sacrifice of performance.

FORD *-- the complete line!*

HSS ground cutters, rotary files, countersinks
CARBIDE cutters, end mills, grinding burs

Complete Details. Operating Data

All specifications plus informative operational data on more than 300 FORD rotary tools contained in new FORD Catalogue No. 207. Write for yours!

FORD regrinding service adds tool life, reduces tool costs!

M. A. FORD MFG. CO., INC.
Pioneers in rotary tools for more than 30 years
DAVENPORT 8, IOWA

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NORTHERN HI-LIFT OVERHEAD CRANES

For Safety—Durability—Dependable Operation with minimum maintenance—these NORTHERN HI-LIFT CRANES are especially developed for low headroom operation and floor control. Let us send you further details in

BULLETIN HL-115-R

NORTHERN ENGINEERING WORKS, 2615 Atwater St., Detroit 7, Mich.

NORTHERN CRANES AND HOISTS

▲ For more details circle NED-561 F3 on enclosed inquiry slip ▲

It's no wonder why so many industries

Choose American

the most economical and practical

STORAGE RACKS

Heavy Duty American Skid Rack Installation, Warner & Swasey Co., Cleveland, Ohio

American

SKID RACKS

American Skid Racks are made in any size, with any underclearance, and can be erected without bolting or welding. Three types are available:

1—Standard Tubular
2—Heavy Duty
3—Extra Heavy Duty

Tiering your skids saves space . . . saves time in handling stock . . . saves time taking inventory . . . everything is always in sight.

Send for Catalogue

AMERICAN METAL PRODUCTS CO.

STORAGE RACK DIVISION
5959 Linsdale • Detroit 4, Michigan

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SELENIUM RECTIFIER KIT for any one of 12 rectifier stacks

Included in compact, self-contained, "build-your-own" selenium rectifier kit are necessary components for assembling any one of four different types of selenium rectifiers — half-wave, full-wave center-tap, full-wave bridge or full-wave battery types. Rectifier can be assembled in matter of minutes and disassembled easily to use parts for other rectifier types. Enough components are available to build any one of 12 rectifier stacks for wide range of alternating and direct current applications. Each kit includes step-by-step instructions with keyed drawings. Made by **Federal Telephone & Radio Corp.**, 100 Kingsland Rd., Clifton, N. J.

▲ For more details circle NED-563 F3 on enclosed inquiry slip ▲

GENERATING BELT GRINDER for turbine buckets and blades generates any degree of finish

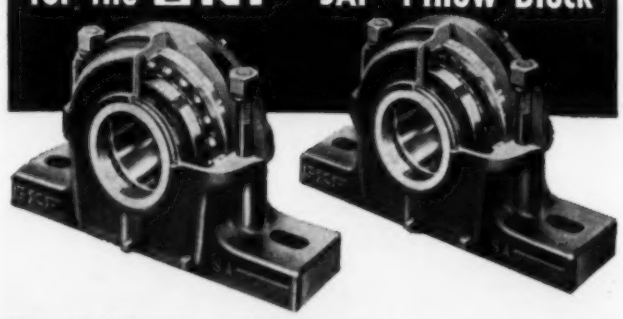
Design of this generating grinder for aircraft gas turbine buckets and blades utilizes an abrasive belt traveling between a master form and the work piece. The master form generates the desired contour from relative motion between it and work piece. Motion is such that progressive contact of limited area results. Ample power is supplied by 15-hp motor.

It is possible to grind one side of a convex or relatively flat surface blade and one-half the leading and trailing edges in one setting on the model 4T. Model 4S is for concave shapes. Reciprocation of work piece on the 4T and of the cam assembly of model 4S is hydraulic. Operation is automatic except for loading and unloading. Feed rates, distance of travel, and grinding force are functionally adjustable.

Most components used are Vickers, including 2-hp motor-pump unit mounted adjacent to hydraulic compartment for easy access. Pushbuttons are mounted on electrical panel enclosure at front of machine, and wiring is in accordance with JIC standards. Made by **Planet Products Corp.**, 6301 Warrick St., Cincinnati 27, O.

▲ For more details circle NED-564 F3 on enclosed inquiry slip ▲

DIRT'S NO PROBLEM for the SKF "SAF" Pillow Block



The "SAF" Pillow Block is SKF's answer to dirt problems:

- triple-seal rings give three-fold protection in dirt-gathering locations; seal out foreign matter; seal in oil or grease; self-aligning.
- special stabilizing rings between housing shoulder insure fixed position of shaft in bearing during operation.
- types for light, normal and heavy duty. 7359

Write SKF Industries, for complete details, or contact your SKF Distributor. **SKF INDUSTRIES, INC.**, PHILADELPHIA 32, PA.
—manufacturers of **SKF** *and* HESS-BRIGHT *bearings.*

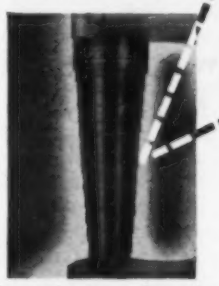
SKF® BALL AND ROLLER BEARINGS

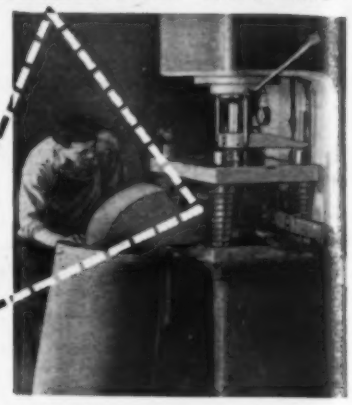
IN EVERY INDUSTRY, SKF Puts The Right Bearing In The Right Place

▲ For more details circle NED-565 F3 on enclosed inquiry slip ▲

DIE LIFE INCREASED 25% *with* ELASTICONE GUIDE PIN COVERS

Get increased performance from Dies with Elasticone Guide Pin Covers. Protects pins and bushings from nicks and scratches . . . preserves Dies' accurate alignment . . . reduces lubrication and maintenance. JUST SNAP INTO PLACE! *No Installation Costs!*





Investigate today the many new cost-saving engineering advantages in die designing with Elasticones.

Elasticones are manufactured in stock sizes. Specify O.D. of bushing and full open height of set when ordering.

Write for full information and literature.

CENTRAL

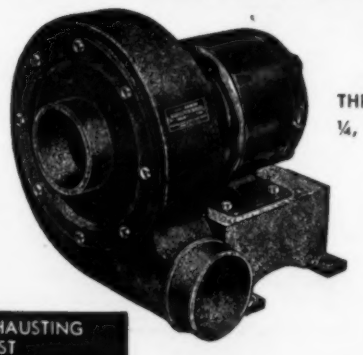
2208 EAST HUNTINGDON ST. PHILA. 25, PA.

CENTRAL SAFETY EQUIPMENT COMPANY

▲ For more details circle NED-566 F3 on enclosed inquiry slip ▲

▲ For more details circle NED-567 F3 on enclosed inquiry slip ▲

THE *Sutton* MOTOR DRIVEN PRESSURE BLOWER



THREE SIZES ¼, ½, 1 H.P.

USE FOR
- EXHAUSTING
- DUST
- SMOKE
- FUMES
- VAPOR
- FORGE BLASTING

CONVEYING COTTON, WOOL, SHAVINGS
COOLING AND DRYING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY. CENTRIFUGAL TYPE. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

Write for LITERATURE AND PRICES

Sutton *Manufacturing Corp.*

126 WEST WILSON AVE. NORFOLK, VA.

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AJAXOMATIC* POURING UNIT

in Operation at Montrose Division

BENDIX AVIATION CORPORATION

Photo shows installation of AJAXOMATIC Combined Holding Furnace and Automatic Pouring Unit in connection with die casting machine.

Now completely automatic die casting of aluminum alloys is possible in smaller quantities than formerly, and at reduced cost. This small, compact AJAXOMATIC unit will increase production of die castings by as much as 25%, because it delivers regular, uniform quantities of metal into the die casting machine with no delay, immediately after dies are closed. The spout itself is heated and the temperature of each metal shot remains constant.

**Patents Pending*

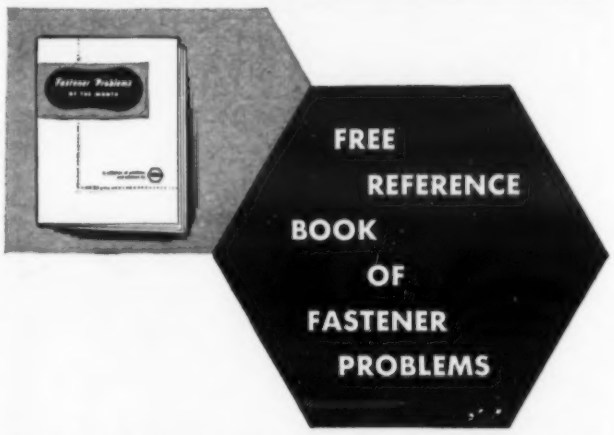
For further information, send for descriptive folder A-9

AJAX ENGINEERING CORP., TRENTON 7, N. J.

AJAX TAMA-WYATT INDUCTION MELTING FURNACE

AJAX ELECTRO METALLURGICAL CORP., and Associated Companies
AJAX ELECTROTHERMIC CORP., Ajax Northrup High Frequency Induction Furnaces
AJAX ELECTRIC CO., INC., The Ajax Hultgren Electric Salt Bath Furnace
AJAX ELECTRIC FURNACE CORP., Ajax Hyatt Induction Furnaces for Melting

▲ For more details circle **NED-569 F3** on enclosed inquiry slip ▲



Here's an interesting and varied collection of fastener problems, which were solved by sound application of self-locking ELASTIC STOP nuts or the new Rollpin fastener. Some of these 28 cases may suggest answers to some design problems of yours. Or perhaps you'll just enjoy reading how other engineers resolved their difficulties.

Write for your free copy of this booklet of ideas. And if you have ideas or problems of your own, remember that ESNA has the broadest line of standard and special self-locking fasteners . . . and a staff of experienced engineers ready to help you. Address Dept. N39—637.

ESNA

ELASTIC STOP NUT CORPORATION OF AMERICA

2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS

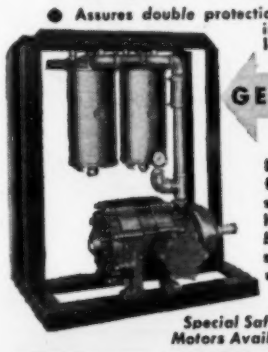
▲ For more details circle **NED-570 F3** on enclosed inquiry slip ▲

INDUSTRIAL FILTERS By GENERAL

GENERAL INDUSTRIAL FILTERS are the right "prescription" for reducing machine wear and maintenance costs wherever hydraulic or lubricating oils are used—insure clean lacquers, paints, and other industrial liquids.

GENERAL'S AF-500

- Traps particles as small as 5 microns.
- Eliminates moisture due to condensation.
- Has cleanable, easy-to-replace ALL-WOOL felt cartridge.
- Assures *double* protection with fine wire screen inside felt to prevent collapse.



GENERAL'S AF-2000A

Links two AF-500s with a pump for forcing viscous liquids from a central supply tank through filters. Protects hydraulic and lubricating oils in a battery of machines at fraction of separate installation costs. Capacities up to 45 gpm.

Special Safety Motors Available

WRITE for specifications. Tell us your filtering problems.

GENERAL FILTERS, INC.

12890 WESTWOOD • DETROIT 23, MICH.

▲ For more details circle **NED-571 F3** on enclosed inquiry slip ▲

CEMENT BLOWING GUN

handles all cementitious materials

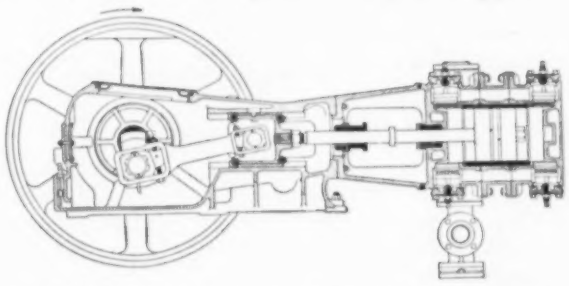
Redesigned model PM-1 Blastcrete gun has provision for easier and faster loading, better control of material flow and air pressure, and conforms to ASME code for pressure vessels. Material flow can be adjusted to any desired amount or cut off instantly when free air is required to blow out lines. Gun handles materials with up to 6 per cent moisture, including all cementitious materials for construction, all refractory materials and many lightweight aggregates. It places 1 to 5 cu yd per hour per 100 cfm of air. Made by **Blastcrete Equipment Co.,** 11152 Santa Monica Blvd., Los Angeles 25, Calif.

▲ For more details circle **NED-572 F3** on enclosed inquiry slip ▲

AIR & GAS COMPRESSORS

absence of oil in air cylinder assures impurity-free air or gas

Compressed air or gas created by class ATL and ATCL Oilfreair and Oilfregas compressors is assured of being impurity-free because compression cylinder requires



no lubrication. This is made possible by improved design which employs a steel-backed carbon cylinder and metallic piston rings as compared to metal air cylinder and carbon rings employed in earlier class 3-ATC models.

Carbon cylinder rings obviate the necessity of a tail-rod. Burden of piston and piston-rod is now carried by entire area of liner upon which piston and metallic rings run. Absence of lubrication in air cylinder minimizes risk of fires and explosion in the machine, discharge line or air receivers. In ATL models, cylinder is constructed in segments to allow removal for inspection without interrupting intake or discharge connections.

Compressors are used in food processing and chemical industries and are well suited for supplying clean instrument air. Made by **Pennsylvania Pump & Compressor Co.,** 14 Bushkill Dr., Easton, Pa.

▲ For more details circle **NED-573 F3** on enclosed inquiry slip ▲

New! Low-Cost! Wide-Range! VARIABLE Speed Sheaves

Easily Attached to Any Machine

1/15 TO 15 HP.
RATIOS UP TO 8:1

- Simple, sturdy Speed Selector Sheaves are applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. You get wide speed variations with standard V-belts, since two variable pitch sheaves are used. Eliminates bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts.

- Standard V-belts
- Automatic belt alignment
- Fixed shaft centers
- LOW COST

Write FOR FREE BULLETIN

SPEED SELECTOR INC

118-N NOBLE COURT • CLEVELAND 13, OHIO

▲ For more details circle **NED-574 F3** on enclosed inquiry slip ▲

SAW it ALL . . . and SAVE

with the

KETT PANEL CUTTING SAW

no drilling! no filing! no deburring!

Exclusive features save you time and money. Just "plunge" right in and cut everything from cardboard to steel. Zip around curves and contours . . . through the toughest cutting job far quicker and easier. Typical capacities: 12 ga. steel, 3/16" aluminum, 1/4" Masonite, plywood, Mirawal Fiberglas and plastics. Interchangeable blades permit cutting soft rigid materials up to 1/2" . . . blades for tempered or soft aluminum, copper, brass, lead, etc. Your electric or pneumatic drill motor can power the KETT Saw. Write for Catalog E-18

THE KETT TOOL COMPANY • East Third St., Cincinnati 2, Ohio

▲ For more details circle **NED-575 F3** on enclosed inquiry slip ▲

"FOREST:—
DON'T FORGET FUSETRON FUSES DO MORE THAN PROTECT MOTORS — THEY PROVIDE 10 POINT PROTECTION!"

1. Protect against short-circuits.
2. Protect against needless blows caused by harmless overloads.
3. Protect against needless blows caused by excessive heating—lesser resistance results in much cooler operation.
4. Provide thermal protection — for panels and switches against damage from heating due to poor contact.
5. Protect motors against burnout from overloading.
6. Protect motors against burnout due to single phasing.
7. Give DOUBLE burnout protection to large motors — without extra cost.
8. Make protection of small motors simple and inexpensive.
9. Protect against waste of space and money — permit use of proper size switches and panels.
10. Protect coils, transformers and solenoids against burnout.

Don't Risk Losses!

One **lost** motor . . .
One **needless** shutdown . . .
One **destroyed** switch or panel
One **burned out** solenoid . . .
May cost you far more than replacing every ordinary fuse with a Fusetron dual-element Fuse.

FUSETRON

TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION

BUSS

BUSSMANN MFG. CO. University at Jefferson
ST. LOUIS 7, MO. (Division McGraw Electric Co.)

▲ For more details circle **NED-576 F3** on enclosed inquiry slip ▲

Small precision metal parts... Torrington makes them better, and for less!

FREE CATALOG — shows the great variety of small parts we can produce inexpensively and promptly. Send for copy today!

If your product uses small precision metal parts . . . pivots, pins, dowels, rollers, mandrels, needles, punches, etc. . . . send us your blueprints for a prompt quotation.

As a leading contract fabricator, TORRINGTON is equipped with the special machinery to produce in any quantity for quick delivery at low prices.

THE TORRINGTON COMPANY
Specialties Division
420 Field Street • Torrington, Conn.

Makers of
TORRINGTON NEEDLE BEARINGS

▲ For more details circle NED-577 F3 on enclosed inquiry slip ▲

There's NO Tail Swing with HYSTAWAY!

Because there's no tail swing—this Hystaway Dragline makes possible digging close to railroad car without disrupting traffic. Mounts on Caterpillar Diesel Tractors.

...and that makes possible digging in closer quarters

Hystaway can dig in close quarters, right up against walls, fixed obstructions—in places where it is impossible to dig with other revolving shovels which must have room to swing superstructure. In addition, with Hystaway you can excavate and *bulldoze* with one machine! Only Hystaway gives you seven money-saving machines in one! See your Caterpillar-Hyster Dealer or write for Catalog 1235 to:

HYSTER COMPANY
2906 N. E. Clackamas St.
Portland 8, Oregon
1806 N. Adams, Peoria 1, Illinois

THERE'S PROFIT IN HYSTER POWER

HYSTER

▲ For more details circle NED-578 F3 on enclosed inquiry slip ▲

You can't buy a better "soft" hammer—anywhere!

C/R JAW-HEAD

There's plenty of power cushioned in the tough, resilient water buffalo faces that give delicate parts and fine finishes full protection. Faces are easily, quickly replaced. You have a comfortable, non-slip grip with the Safety-Flare handle. Work with the best "soft" hammer — make sure it's a C/R RAWHIDE Jaw-Head.

NEW FACES IN SECONDS!

Just loosen a nut and old faces are easily replaced. Tighten nut, and faces are in vise-like grip.

For further information write Dept. 22

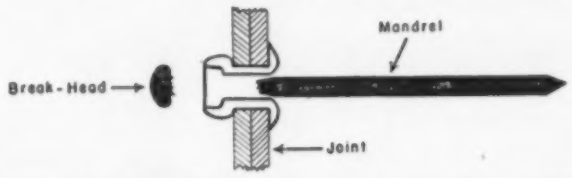
CHICAGO Rawhide MFG. CO.
1301 Elston Ave., Chicago 22, Ill.
In Canada: Super Oil Seal Mfg. Co., Ltd., Hamilton, Ontario

Available from leading industrial suppliers. Also C/R Rawhide mallets and Rawhide mauls.

▲ For more details circle NED-579 F3 on enclosed inquiry slip ▲

BLIND RIVET can be driven at rate of 1200 per hour by inexperienced operators

Driven by manually or power operated tools, the Pop Rivet makes blind spots as easy to handle as open sections, can be driven without a dolly, and can be

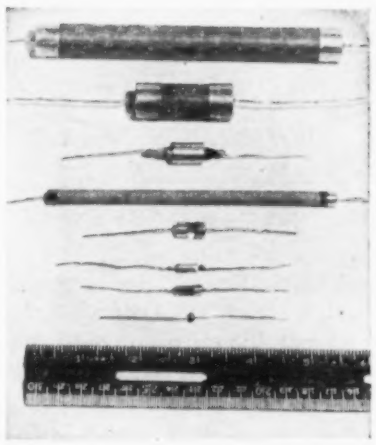


driven by unskilled operator. After the rivet and its integral mandrel have been slipped into a predrilled hole, the fastening tool pulls on the mandrel and pushes on the rivet head simultaneously. Both are expanded and clinched to the work, and at a predetermined tension, the expendable mandrel breaks at the head and is pulled through, leaving the rivet in position.

Applications include airplane construction, truck bodies, passenger automobile bodies, refrigerators and roofing. If required, the hollow rivets may be covered by filling with a compound or by capping. The rivets are produced in Monel and aluminum and are made in sizes from 7/64-in. up to 3/16-in. diameter and in lengths from 0.190 to 0.750-in. Made by **J. C. Rhodes & Co.**, Dept. N, New Bedford, Mass.

▲ For more details circle NED-580 F3 on enclosed inquiry slip ▲

MINIATURE SELENIUM RECTIFIERS have —55° to 100° C ambient range



Designed as non-expendable components, line of miniature selenium rectifiers, ranging in diameter from 3/32 to 15/32-in., have an ambient temperature range of −55° to 100° C. They will operate small relays, solenoids and precipitators. Circuit applications include electronic, blocking, computer, signal, magnetic amplifier, communication and control. At an ambient of 35° C, single-stack rating ranges from 0.5 ma dc at 26 v rms to 25 ma dc at 5200 v rms. Higher ratings result from combining the stacks. Totally enclosed Textolite tubes for normal industrial operation and hermetically sealed, metal-clad casings to meet government specifications are available. Cells can be bracket mounted. Made by **General Electric Co.**, Schenectady 5, N. Y.

▲ For more details circle NED-581 F3 on enclosed inquiry slip ▲

Winnen Incinerator Pays for Itself In Less Than a Year!

Four different sizes now available.

—Burns Wet or Dry Refuse

The Winnen Industrial Incinerator saves more than its costs in refuse hauling charges within six to twelve months, according to hundreds of satisfied users. Largest model completely consumes up to 400 lbs. per hour of half wet and half dry refuse. Available in four different sizes. Combustion is so complete there is usually less than a bushel of fine, white ash after a week of normal operation.

Ideal for use in or near residential areas, practically all smoke and odors can be eliminated through forced draft, a special ventilating system and secondary combustion. A hot, intense flame is delivered by twin burners using natural, manufactured, bottled gas or oil. Operating costs are amazingly low. Available without any burners for dry refuse, only.

Designed for installation either indoors or out. Absolutely safe! It is easily loaded and fired and can be left unattended during day or night. Virtually foolproof, the Winnen Incinerator comes completely equipped with the latest safety devices. Available with automatic timer to control fuel shut-off at pre-selected times, as well as prefab chimney, if required. Also special drying rack where large amounts of garbage or wet refuse must be burned.

Winnen Incinerators are shipped complete, knocked down, direct from factory within ten days of receipt of order. Complete, easy-to-follow instructions for assembling and installing are furnished. Any qualified maintenance man can have a Winnen Incinerator ready to operate within a day or less. Installation does not require a mason or furnace man. Materials and workmanship are fully guaranteed for 90 days.

Send for new, free folder, prices and further information. Use the inquiry card or write to Winnen Incinerator Co., 932 Broadway N. E., Bedford 90, Ohio.

▲ For more details circle NED-582 F3 on enclosed inquiry slip ▲

THE TWIN TUBE POCKETSCOPE BY WATERMAN

MODEL S-15-A

Wt. 16¼ lbs.
12" x 6" x 7"

A new concept in multiple trace oscilloscopy made possible by Waterman developed RAYONIC rectangular cathode ray tube, providing for the first time, optional screen characteristics in each channel. S-15-A is a portable twin tube, high sensitivity oscilloscope, with two independent vertical as well as horizontal channels. A "must" for investigation of electronic circuits in industry, school, or laboratory.

Vertical channels: 10mv rms/inch, with response within —2DB from DC to 200kc, with pulse rise of 1.8μs. Horizontal channels: 1v rms/inch within —2DB from DC to 150kc, with pulse rise of 3μs. Non-frequency discriminating attenuators and gain controls, with internal calibration of traces. Repetitive or trigger time base, with linearization, from ½cps to 50kc, with ± sync. or trigger. Mu metal shield. Filter graph screen. And a host of other features.

WATERMAN PRODUCTS CO., INC. PHILADELPHIA 25, PA.
CABLE ADDRESS: POKETSCOPE

WATERMAN PRODUCTS INCLUDE:

S-4-A	SAR	PULSESCOPE
S-5-A	LAB	PULSESCOPE
S-10-B	GENERAL	POCKETSCOPE
S-11-A	INDUSTRIAL	POCKETSCOPE
S-14-A	HIGH GAIN	POCKETSCOPE
S-14-B	WIDE BAND	POCKETSCOPE

Also RAKSCOPES, LINEAR AMPLIFIERS, RAYONIC TUBES and other equipment

WATERMAN PRODUCTS

▲ For more details circle NED-583 F3 on enclosed inquiry slip ▲

Jam-packed with cost-cutting, efficiency-boosting characteristics, the Johnson Joint offers exciting possibilities you should know about. It's a packless, self-lubricating and self-adjusting way to get heating or cooling agents in or out of rotating machine parts; used on calenders, dryers, ironers, mills and similar machines. There are hundreds of design and production problems for which it holds the perfect answer.

Write for complete literature

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

▲ For more details circle NED-584 F3 on enclosed inquiry slip ▲

ADHERES to almost any metal INVISIBLE on all of them

DULAC CLEAR UNIVERSAL LACQUER #462— Here is a *single* water-white lacquer with remarkable adhesion to practically *all* metals. Withstands salt spray and weatherometer tests for exceptionally long periods. Resists heat, cold, weather, stain, perspiration. Dries out of dust in 5 to 10 minutes . . . hard in one hour. Applied by spray or dip.

For complete information, write for Technical Data Bulletin #110.

PIONEERS IN PROTECTION

MAAS & WALDSTEIN CO. 2121 McCARTER HIGHWAY NEWARK 4, NEW JERSEY

Midwest Div.: 1650 Carroll Ave., Chicago 12, Ill. • Pacific Coast Div.: Smith-Davis Co., 10751 Venice Blvd., Los Angeles 34, Cal.

MANUFACTURERS OF INDUSTRIAL FINISHES

▲ For more details circle NED-585 F3 on enclosed inquiry slip ▲

Drill More Holes Per Hour In ANY Pattern... On ANY Drill Press

with a Adjustable MULTI-DRILL

DRILLS 2 to 8 HOLES at ONE STROKE

Increase production up to 800% ... save time, cut costs. MULTI-DRILLS make *any* drill press produce *more*. Attached without alterations or special tools. Quick, easy setups of universally adjustable spindles give you more flexibility . . wider application. Handles any hole pattern within 9" circle; centers close as ½". Extension Spindles available to increase working area to 22½". Special adaptations available.

model 900

DRILLS ANY HOLE PATTERN

See your Commander Distributor for complete details. Write for the NEW Commander Full Line Catalog #851.

COMMANDER MFG. CO.
4220 W. Kinzie St. • Chicago 24, Illinois

Product of Commander... Builder of Production Tools

▲ For more details circle NED-586 F3 on enclosed inquiry slip ▲

Check Temperatures Instantly... Accurately with Alnor TYPE 1500 PORTABLE PYROMETER

Wherever temperature readings are required—on the production line, in the laboratory or in the field—this sturdy precision instrument can bring you instant, accurate results.

Here's Why

It's Fast . . . in operation and quickly read. Precision movement designed to laboratory standards. Direct reading scale face is easily understood—no slide wires or conversion tables necessary.

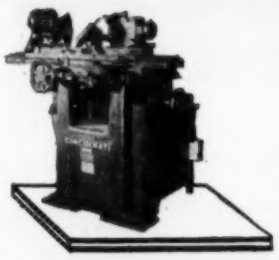
It's Accurate . . . consistently to within ¾ of one percent under almost all variable conditions. Sturdy, protective case assures continued accuracy in toughest portable service. Ten scale ranges available, from 0-400° to 0-3000°F. Equivalent Centigrade scales available at no extra cost.

It's Portable . . . compact size, 6½"x6"x3", and light weight make this pyrometer highly portable and easy to use anywhere. Write today for complete details and prices. Illinois Testing Laboratories, Inc., Room 529, 420 N. La Salle Street, Chicago 10, Illinois.

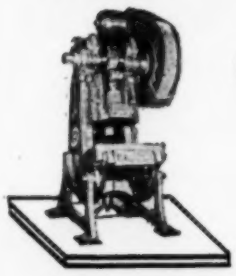
Send for Bulletin on 1500 Pyrometer.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ For more details circle NED-587 F3 on enclosed inquiry slip ▲



For Longer Machine Life Use UNISORB® Mountings



Eliminate 60%-85% of transmitted machine vibration, reduce machine maintenance and eliminate floor drilling — by mounting your machines on UNISORB.

No bolts, no lag screws when you use UNISORB pads with our special cement. Or, you can use UNISORB pads precoated with adhesive when mounting machines that do not require shimming.

"Why It Pays To Anchor Your Machines With UNISORB" tells the entire story about this modern way to reduce noise and vibration. Ask for your copy. No obligation.

the FELTERS company
224 South Street
Boston 11, Massachusetts

WRITE FOR YOUR COPY OF THIS INTERESTING BOOK

▲ For more details circle NED-588 F3 on enclosed inquiry slip ▲

STEEL MEASURING TAPES come with plastic carrying case

Line of 25, 50, 75 and 100-ft steel measuring tapes enameled in white and numbered in black feature markings to indicate feet, inches and eighths along with supplementary feet-markings given every inch. Tape is made of ⅜-in. wide tempered, Bonderized high-carbon steel. End of tape has hook-ring combination for one man measurement. Provided with these White Tapes is heavy gage vinyl plastic carrying case and informative instruction booklet. Chrome-plated wind-up handle folds into case when not in use, and double roller mouth-piece facilitates winding and unwinding, and minimizes tape wear. Made by **Evans & Co.**, Dept. NED, Elizabeth, N. J.

▲ For more details circle NED-589 F3 on enclosed inquiry slip ▲

ELECTROPLATING POWER SUPPLIES available in various ratings

For electroplating and anodizing operations, this line includes manually and automatically controlled models, as well as special equipment for barrel plating and precision laboratory work. Operating economy in each rating is achieved by using a variety of circuits and either copper-oxide or selenium rectifier stacks, depending on the output desired. Ratings range from 500 amp at 6 v to 2000 amp at 48 v dc for the manual and automatic models. Barrel plating units are available from 600 amp at 6 v to 2000 amp at 12 v, and laboratory platers at 50 amp at 9 v and 65 amp at 18 v. Made by **General Electric Co.**, Schenectady 5, N. Y.

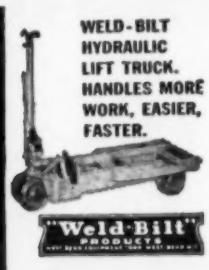
▲ For more details circle NED-590 F3 on enclosed inquiry slip ▲

Solenoid Valves

Automatic Switch Co.—Latest information on ASCO line of solenoid valves is contained in 80-page catalog 24. Valves are made in both packless and packed construction for all classes of service for which solenoid valves are suitable. New items covered include two and three-way midget valves with explosionproof solenoids, time delay units, four-way valves with poppet-type seats and disks and bronze and iron strainers.

▲ For more details circle NED-591 F3 on enclosed inquiry slip ▲

Take an EXTRA Profit with Weld-Bilt Experience in Materials Handling!



WELD-BILT HYDRAULIC LIFT TRUCK. HANDLES MORE WORK, EASIER, FASTER.

One Midwest manufacturer saved $90,000 on equipment cost alone because he called in a Weld-Bilt engineer FIRST, before deciding on expensive special-design units recommended to solve a difficult handling problem. Our engineer, experienced in cost-saving shortcuts, showed how simple adaptation of more standard equipment could do the job even better.

This is the kind of service you can expect from WELD-BILT . . . a thorough analysis of your problems based on years of varied experience and wide knowledge, of handling problems . . . then a recommended solution that will do YOU the most good — in time and labor savings, in product protection, production speed-up — at the lowest cost. It may involve adapting standard equipment, custom-engineering new equipment — or merely realigning your present operations.

Call in the WELD-BILT Materials Handling Engineer for an economical solution to your problem today. You'll probably save money.

WEST BEND EQUIPMENT CORP.
311 Water St., West Bend, Wis.

MATERIALS HANDLING ENGINEERS

Portable Elevators • Pallet Trucks • Single Stroke Lift Trucks • Two-Wheel Trucks • Platform Trucks • Skid Platforms.

▲ For more details circle NED-592 F3 on enclosed inquiry slip ▲

Speed Production... Automatically with T-J RIVITORS

Boost production . . . save labor in aircraft, automotive, farm machinery, stampings of all kinds . . . with T-J Rivitors! Automatically feed and set solid rivets. Electrically-powered Rivitor sets 1/16" to 1/4" diam. solid rivets up to 7/8" long. Air-powered Rivitor sets aluminum alloy rivets up to 1/4" diam. or steel rivets up to 1/8" diam. and up to 3/4" long. Throat depths 8" to 36". Write for bulletins 646 and 847. The Tomkins-Johnson Co., Jackson, Mich.

T-J Rivitor used for automotive clutch plate assembly. Does four-fold job—assembling, setting, inspecting, ejecting.

37 YEARS EXPERIENCE T-J
TOMKINS-JOHNSON
RIVITORS . AIR AND HYDRAULIC CYLINDERS . CUTTERS . CLINCHORS

▲ For more details circle NED-593 F3 on enclosed inquiry slip ▲

B.F.Goodrich

TW TIRE AND WHEEL ANALYSIS solves your industrial tire problems, saves you as much as 50%

• What's your industrial tire problem? Too much power-consumption or rolling resistance? Not enough traction? Cushioning or flotation? Or is it cutting, tread chipping or oil damage? No matter what it is, there's an industrial tire designed to solve it, one that may give you up to *twice as much service* as any other tire.

To help you specify this tire, B. F. Goodrich has developed the Tire and Wheel Analysis Plan. Without obligation, a trained BFG man will study your materials handling operations. He'll recommend the right type tires for you to use — solid, semi-pneumatic or pneumatic. He'll tell you what tread design is best—smooth, directional, non-directional—and if a special tread compound should be used.

Follow the TW Analysis man's advice and you can save as much as 50% on industrial tire costs. And his maintenance tips can cut your bills up to 20%. His advice is impartial, for B. F. Goodrich makes, and BFG retailers sell, a complete line of industrial tires.

To find out more about this free B. F. Goodrich Tire and Wheel Analysis Plan, mail the coupon or call your BFG retailer. A special TW Analysis Plan is available for manufacturers of industrial handling equipment.

Specify B. F. Goodrich tire. when ordering new equipment

The B. F. Goodrich Co.
Department TW-98, Akron 18, Ohio.

Please send me:
☐ *Additional information* on your new Tire and Wheel Analysis Plan
☐ A free copy of your "Industrial Tire Guidebook".

Name _____
Company _____
City _____ Zone ____ State ____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

▲ For more details circle NED-594 F3 on enclosed inquiry slip ▲

HOW TO SAVE 40% to 70% on the cost of work gloves

In handling materials that are sharp, abrasive or slippery, or where oil, grease, acid, caustic, solvents or heat are present, properly *job-fitted* gloves of coated fabric far outwear canvas, leather and unlined rubber gloves. Cost-savings of 40% to 70% are usual, in addition to safer work-handling and improved employee attitude.

No. 93 glove has NEOX (reinforced neoprene) coated palm. *Lasted 26 shifts handling stainless coil strips vs. 2 to 3 shifts with canvas gloves.* NEOX combines exceptional resistance to cutting, abrasion, chemicals and heat, with flexibility and good grip. Also available in many fully coated styles for liquid-proof service.

Edmont

No. 363 gauntlet coated with DUROX, a 50% longer wearing plastic. *Retains its grip when wet.* Ideal for contact with oil, other slippery liquids. Note hand-fitting shape, pre-flexed fingers, wide wing thumb.

Make this simple free test: Send a brief description of your operation, materials handled and temperature condition. From 32 types of Edmont work gloves, we will recommend the glove that correctly fits your condition and forward samples, without cost, for testing on-the-job. Address

Edmont Manufacturing Co.
1240 Walnut St., Coshocton, Ohio
World's largest maker of coated industrial gloves

Edmont JOB-FITTED GLOVES

▲ For more details circle **NED-595 F3** on enclosed inquiry slip ▲

Camcar specialists have added the superior quality features of Cold-Flow processing to the assembly-saving design of SPIN-LOCK Screws, to give you high production service with critical tolerance and finish specifications. Ratchet-like structure of teeth is the secret of SPIN-LOCK's tighter grip. Teeth firmly bite into metal to prevent loosening.

You can now obtain the finest quality parts for vibration-proof applications with the same prompt service supplied on all Camcar parts.

Monthly Stock List mailed on request . .

THREAD CUTTING
AIRCRAFT SCREWS
PHILLIPS
SEMS
SHEET METAL
SPECIALS

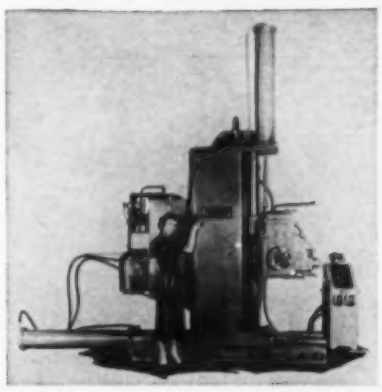
Telephone 5-9451
Teletype RK8653

CAMCAR SCREW & MFG. CORP.
601 Eighteenth Avenue
Rockford, Illinois

"PRODUCTION-DESIGNED FOR YOUR ASSEMBLY LINE"

▲ For more details circle **NED-596 F3** on enclosed inquiry slip ▲

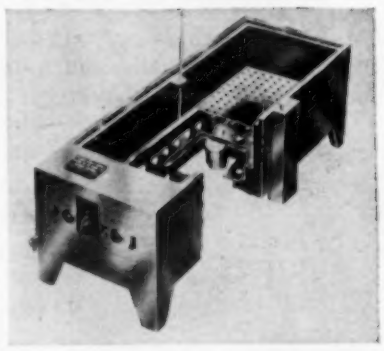
BORING & FACING MACHINE with template duplicator equipment



Irregular profile milling and boring of aluminum, magnesium castings and forgings, as well as cast and rolled armor plate are possible with this boring and facing machine. Completely packaged unit, ready for installation, is equipped with template duplicator equipment, templates, work holding fixtures, and floor plates as required. Spindle housing is motor-powered unit which moves directly into work face. Made by **Forney's Inc.**, 201 Elm St., New Castle, Pa.

▲ For more details circle **NED-597 F3** on enclosed inquiry slip ▲

WATER BATH features gentle agitation



All areas of the liquid mass in Magni-Whirl utility water bath are given gentle agitation, regardless of how heavily the bath is loaded with test specimens. This is accomplished by an automatic self-timing electro-magnet below the bottom wall of the bath which periodically pulls the flexible perforated circulator plate up and down. Stirrer and circulating system automatically maintains temperatures from ambient to 100° C throughout the entire water mass to within plus or minus ¼° C. Automatic dual Microtrol selects and repeats the two most used temperatures and a power selector switch automatically selects the proper wattage in relation to the desired temperatures. Four models are available with lengths, widths and depths from 12 x 7½ x 7½ in. to 36 x 18 x 9½ in. Made by **Blue M Electric Co.**, 307 W. 69th St., Chicago 21N, Ill.

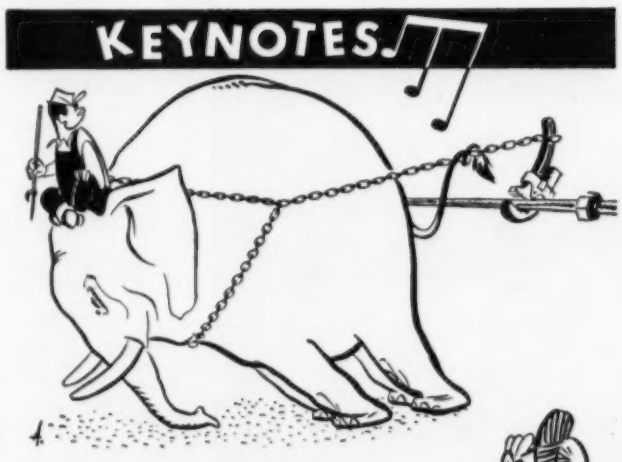
▲ For more details circle **NED-598 F3** on enclosed inquiry slip ▲

Fabricating Polyethylene Plastic

Bakelite Co.—Information on properties, applications and fabrication methods for Bakelite polyethylene plastic is given in 24-page brochure G-22. Making good use of tabular data, the brochure describes product properties in detail. Many photos point up the versatility of the product in application, and extrusion, calendering, molding, casting and coating methods are fully treated.

▲ For more details circle **NED-599 F3** on enclosed inquiry slip ▲

KEYNOTES



"Next time get Key-Tite, the permanent seal that breaks easily."

The perfect seal for pipe joints that carry water, gas, low-pressure steam, etc.

Write for FREE Sample!

SEALS TIGHT... BREAKS RIGHT!
A Product of KEY COMPANY

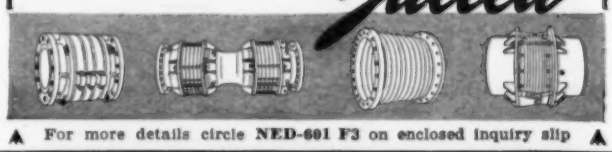
2601 McCasland • East St. Louis, Illinois

▲ For more details circle **NED-600 F3** on enclosed inquiry slip ▲

FOR YOUR EXPANSION PROBLEM...

If you are faced with an expansion problem, chances are you'll find the Zallea Expansion Joint best suited to your needs in this handy, fact-filled folder. It describes completely the full line of Zallea Expansion Joints—from a small 4" connector to a huge 30-foot specially fabricated wind tunnel unit. Write for a copy today. Zallea Brothers, 818 Locust Street, Wilmington 99, Delaware.

Zallea



▲ For more details circle **NED-601 F3** on enclosed inquiry slip ▲

Custom-engineered to meet your specific requirements, Wissco Metal Processing Belts are furnished in standard or special mesh constructions... in conventional and spiral weaves... and with rod reinforcements for high-temperature service. Supplied in correct metal or special alloy for resistance to heat, abrasion and chemical action.

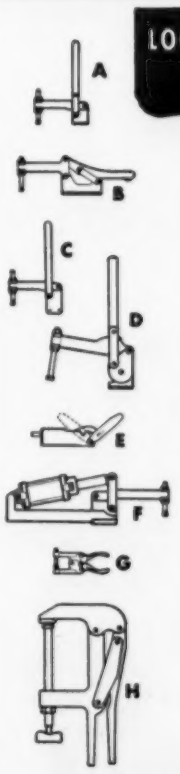
For specific information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

▲ For more details circle **NED-602 F3** on enclosed inquiry slip ▲

LOOKING FOR AN EFFICIENT CLAMP?



- of the right design
- the right size
- the right pressure

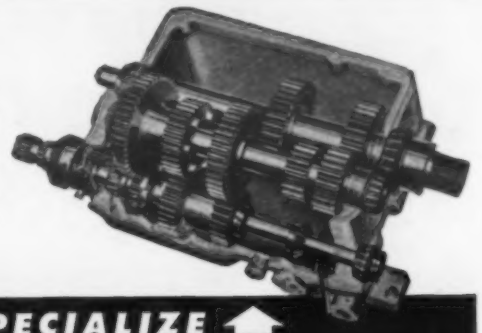
Look to *KNU-VISE*
for the right answer to your clamping problems

A with vertical handle
B with horizontal handle
C with side mount
D with swivel positioning
E push and pull type
F air-operated
G pliers
H C clamps

Sales offices in principal cities. Teletype DE-49

KNU-VISE PRODUCTS LAPEER MFG. CO.
3062 DAVISON ROAD • LAPEER, MICHIGAN
WESTERN DIVISION: 422 MAGNOLIA STREET • GLENDALE, CALIFORNIA

▲ For more details circle **NED-603 F3** on enclosed inquiry slip ▲



This special gear unit was designed and manufactured per customers requirements.

SPECIALIZE
GEARS **OHIO** REDUCERS
STANDARDIZE

Exploded view shows sturdy construction of catalog number DHS Series Reducers.

PROTECT YOUR PRODUCT — specialize with OHIO GEAR special gears and special speed reducers engineered to your specifications and dimensions.

REDUCE MAINTENANCE AND MANUFACTURING COSTS — standardize with OHIO GEAR stock gears and stock speed reducers for years and years of dependable rugged trouble-free service.

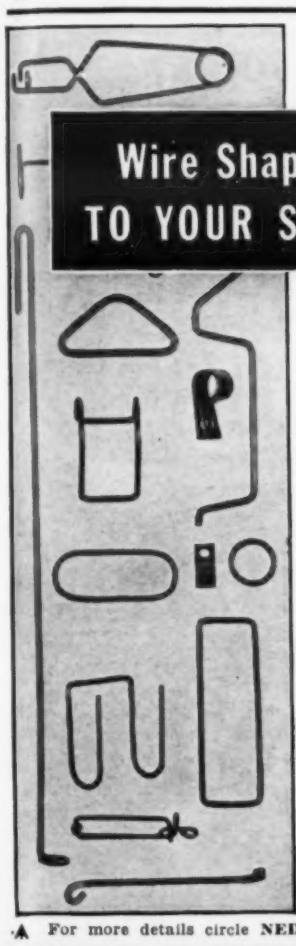
NEW METHODS — modern machinery, sound engineering, approved and thoroughly tested materials enable our Distributors and Representatives to give you prompt, intelligent and helpful attention. Call him or write direct.

ESTABLISHED 1915

OHIO GEARS

THE OHIO GEAR COMPANY
1320 E. 179 St., Cleveland 10, O.

For more details circle NED-604 F3 on enclosed inquiry slip



Wire Shapes and Forms
TO YOUR SPECIFICATIONS

● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

● Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

For more details circle NED-605 F3 on enclosed inquiry slip

Need a *Section* or a *System?*

- EIGHT TYPES of gravity conveyors in sizes to meet your requirements.
- Single sections or complete systems planned by skilled engineers.
- Replaceable bearings.

Get the facts from
CONVEYOR SPECIALTY COMPANY INC.
37 Newport Avenue
North Quincy 71, Mass.

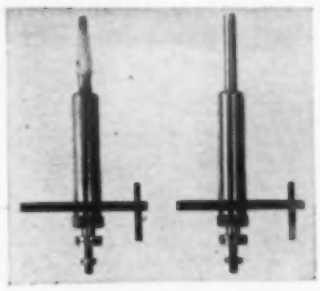
UNUSUALLY PROMPT DELIVERY

Distributors in Major Cities

Belt Conveyors · Slat Conveyors · Punch Press Conveyors · Unipac Handlers
Reciprocating Lifts · "Unitable" Belt Conveyors
Complete Package Handling Systems

For more details circle NED-606 F3 on enclosed inquiry slip

LARGE-HOLE CUTTER
supplied with tapered square shank



Circular holes of large diameter are easily cut in panels of plastic, wood or metal up to ½-in. thick with this steel constructed fly cutter. Unit is supplied with tapered square shank for use with ordinary carpenter's bit stock, or with ⅜-in. round shank. Adjustable arm which carries cutting blade is slotted and straddles hollow shank about the center of its rotation. Blade remains on same radial line as adjustments are made for different hole diameters and thus always approaches work at the same angle. Arm can be set to cut holes ranging from 1¼ to 5¼-in. diameter. An accessory extension arm is available for cutting holes up to 9¼-in. diameter. Made by **Mico Instrument Co.**, 80-D Trowbridge St., Cambridge 38, Mass.

For more details circle NED-607 F3 on enclosed inquiry slip

CABINET OVENS
for production and laboratory use

High pressure motor driven blower built into line of cabinet ovens for closely controlled production and laboratory use propels heated air in a definite air - flow pattern through the work chamber for temperature uniformity. Other features include indicating temperature control, high volume adjustable air - flow, high and low heat switch, Inconel-sheathed heating elements, manual interlock for purge period operation or blower without heat, electrical interlock to turn off heat if blower motor fails and adjustable exhaust and intake. Insulation is Fiberglas. Either horizontal or vertical flows are available for temperatures to 650 and 850° F. Made by **Grieve-Hendry Co.**, 1815A W. Lake St., Chicago 12, Ill.

For more details circle NED-608 F3 on enclosed inquiry slip

Liquid & Vapor Regulators

O. C. Keckley Co.—Steam, gas, air, oil and water regulating equipment is described in 60-page catalog 53. Pressure and temperature regulators, valves and water gages are typical of the line. A number of charts and tables are included which will simplify and speed regulator selection.

For more details circle NED-609 F3 on enclosed inquiry slip

COSTLY WORK BENCHES NEED NOT BE A "NECESSARY EVIL"
Investigate
INDUSTRIAL LAMINATED WOOD TOP BENCHES . . . still your best bench buy!

Nowhere else can you find a bench of such outstanding quality — with so many exclusive patented features — *for so low a price!* No other bench is so right for you for so many working needs. INDUSTRIAL BENCHES *last longer*...because they *stand up better*...made STRONG to begin with.

30 sizes and styles. *Send for complete catalog and prices.*

No. 1909

RIGID....
LOWER PRICED
24" wide, 5 foot long, 33 inches high.
Full laminated wood top made of selected hard maple on edge, 1¾" thick. All sections joined true and glued. Reinforced with concealed bolts. Tops finished, sanded and shellacked. Absolutely no bolts or screws protrude or show above top surface of bench.

Distributor's inquiries invited

$58.85 K.D.F.
F.O.B. NEW BRITAIN
Drawer, extra $8.25

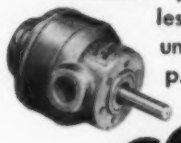
IMMEDIATE DELIVERY. ORDER TODAY!

INDUSTRIAL BENCH & EQUIPMENT MFG. CO., INC.
91 South Street • New Britain, Conn.
Benches — Steel, Maple Top, Welding • Machine Stands, Work Stands, Bench Legs, Tote Boxes.

For more details circle NED-610 F3 on enclosed inquiry slip

portrait of efficiency

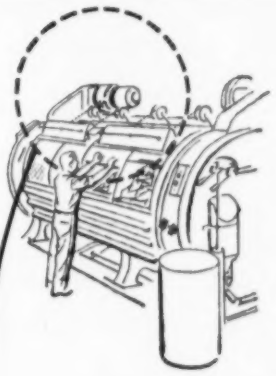
The unique device whose likeness you see here — the famed Gerotor gear mechanism—is the No. 1 reason for the high volumetric and mechanical efficiency of Gerotor Hydraulic Pumps. Revolving in the same direction at low relative speed, the two Gerotors wear less—last longer—assure more uniform flow. Pressures to 1200 p.s.i. continuous, 1500 intermittent.



GEROTOR
hydraulic pumps

GEROTOR MAY CORPORATION, Baltimore 3, Md.

For more details circle NED-611 F3 on enclosed inquiry slip

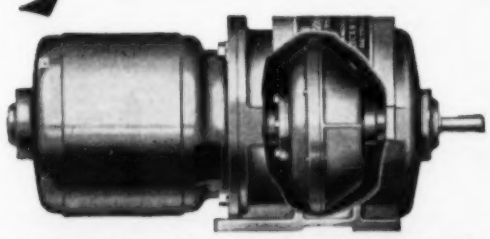


GYROL FLUID DRIVE

saves on CENTRIFUGALS

Centrifugals represent a heavy starting load, which is hard on motors and starting equipment. High starting torque is required for breakaway and acceleration. Fluid Drive permits the motor to start unloaded and to pick up the load at 80-90% speed, developing high torque but under favorable motor conditions where current is low and the rotor is well-ventilated. Fluid Drive allows the use of across-the-line starters and simpler electrical equipment. Thus, Fluid Drive saves on initial installation cost and on maintenance cost.

Advantages of American Blower Type TM Gyrol Fluid Drives



Cutaway view of Type TM Gyrol Fluid Drive unit

- Provides smooth flow of power. Shocks are absorbed in a cushion of oil. There's no metal-to-metal contact between driving and driven machinery.
- Offers by its inherent shearpin action, selective overload protection for both motor and driven machinery. Decreases machine "down" time.
- Available as a complete packaged unit suitable for either direct or belt connection to the driven machine. Minimizes alignment problems.

Free trial units are available to original equipment manufacturers

AMERICAN BLOWER
American Blower Corporation, Detroit 32, Michigan
Division of American Radiator & Standard Sanitary Corporation

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER
CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS

For more details circle NED-612 F3 on enclosed inquiry slip

SURETY'S

TRIPL-PALM

Made Tough

where the punishment's Rough

- Extremely heavy rough Vinyl coating on palm.
- Soft and pliable for hand comfort.
- Standard abrasion tests show Tripl-Palm will outwear by many times, the usual coated glove.
- All sizes and styles available from your jobber, or write direct.

NO SEAM HERE
WING THUMB CONSTRUCTION MULTIPLIES GLOVE LIFE

THE SURETY RUBBER CO. CARROLLTON, OHIO

In Canada—Safety Supply Co., Toronto

For more details circle NED-613 F3 on enclosed inquiry slip

Find out NOW how to cut fire losses with triple-action WaterFOG Nozzles

These are the facts you want — all combined in one simple booklet — get the latest and most authoritative information on fire-protection nozzles. Booklet is FREE.

Lightweight Rockwood SG-48 nozzles provide *3 kinds of fire-fighting action.* You can change instantly from high velocity WaterFOG to straight stream to low velocity WaterFOG, depending on the fire you are controlling. Easy to use. Controls and puts out fires in both ordinary combustible and flammable liquids *faster — and with less water.* Operates at 50 psi at the nozzle. Write for Bulletin C-501R. Distributors in all principal cities.

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to cut fire losses

44 Harlow Street, Worcester 5, Mass.

For more details circle NED-614 F3 on enclosed inquiry slip

get the facts

20 informative pages on

CENTRAL VACUUM CLEANING SYSTEMS

LAMSON

Protect plant equipment, personnel, and product with an effective central vacuum cleaning system.

How to figure requirements, schematic layouts, dimension and application tables, installation drawings and photos, and lots more! Your plant needs this catalog.

We have a copy for you... just clip this coupon to your signed letterhead and mail.

LAMSON

LAMSON CORPORATION
206 Lamson St., Syracuse 1, N. Y.
Gentlemen:
Without any obligation on my part, please send me my copy of the Lamson Exidust System Catalog.
Name ..... Title .....
Company .....
Address .....
City ..... Zone ..... State .....

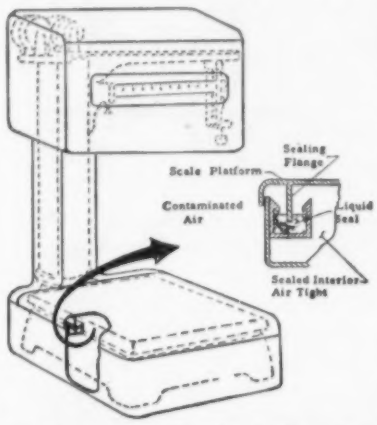
PLANTS AT SYRACUSE, N. Y. SAN FRANCISCO

For more details circle NED-615 F3 on enclosed inquiry slip

INDUSTRIAL SCALE SEAL

fits over scale and excludes dirt

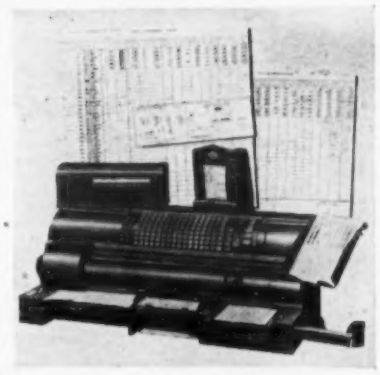
Standard industrial weighing scales are protected from foreign matter and corrosion by this sealing device which fits over scale, protecting column and head as well as base. Feature is sealing flange fixed continuously around under side of moving platform which protrudes into liquid channel for air-tight sealing effect irrespective of weight applied to scale. An access door and windows allow making weight settings and readings. Device is designed as take-down model to permit inspection of scales, if necessary. Made by **Applied Engineering Co.,** Dept. NED, P. O. Box 506, Orangeburg, S. C.



For more details circle NED-616 F3 on enclosed inquiry slip

TAX COMPUTING MACHINE

payroll machine is automatic



Automatic indication of with-holding tax, social security, local taxes or other variable deductions based on a percentage of gross earnings is provided by the No. 142 payroll and distribution machine which incorporates an automatic tax computer. As many as 28 totals for payroll writing and 50 totals for labor distribution are available on the machine which also has an automatic control that prevents over-deduction of FIC when an employee's earnings for the year to date reach $3600. Pay check or pay envelope, pay statement, employee's earnings record, payroll journal and check register are created in a single operation. Made by **National Cash Register Co.,** S. Main St., Dayton 9, O.

For more details circle NED-617 F3 on enclosed inquiry slip

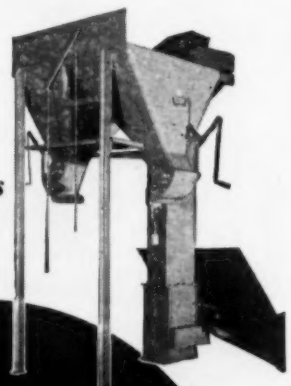
Materials Handling Equipment

Kornylak Engineering Corp. — Suitable for wall mounting, 4-page chart pictures full line of materials handling equipment. Categories are package and bulk handling, roller and wheel conveyor, monorail, storage equipment, power and hand trucks, truck accessories, cranes and hoists and chain and cable conveyors.

For more details circle NED-618 F3 on enclosed inquiry slip

the **HANDY SANDY** *gives you 7 advantages*

THAT MEAN LOWER COST SAND HANDLING FOR YOU



fits any foundry

1. Puts the Sand Pile Overhead
2. Eliminates Shoveling and Waste Motions for the Molder
3. Increases Molders' Output
4. Savings From First Unit Pay for the Next Unit
5. Improves Condition of Sand
6. Takes Little Space
7. Low Cost — Simple to Install

write for bulletin No. 205

NEWAYGO ENGINEERING COMPANY
NEWAYGO, MICHIGAN

For more details circle NED-619 F3 on enclosed inquiry slip

HERE'S THE TEAMMATE FOR YOUR LATHE

Get fast, convenient grinding of lathe centers, cutters, reamers, rolls and dies. You can do it with THE CINCINNATI Ball Bearing Tool Post Grinder!

THE CINCINNATI mounts on the compound rest of any lathe with a 9" swing, or larger. It grinds within 2½" of the maximum swing . . . can be swivelled around the clamping bolt . . . spindle height is readily changed. Motor mount is adjustable for easy maintenance of belt tension. Write today! Ask for name of your distributor or Bulletin 53-HD.

THE BEST IN DRILLS, GRINDERS, BUFFERS, PORTABLE TOOLS

TRADE The Cincinnati MARK

50th Anniversary

THE CINCINNATI ELECTRICAL TOOL CO.
Division of THE R. K. LeBLOND MACHINE TOOL CO.

CINCINNATI 8, OHIO

For more details circle NED-620 F3 on enclosed inquiry slip

This Remarkable "GROUP OPERATION" DRIVES 3 SCREWS at ONE TIME!

AN ASTONISHING PERFORMANCE

MULTIPLIES PRODUCTION!

Three standard DPS SCREWDRIVING MACHINES, mounted on a common base, are feeding and driving three screws simultaneously into an automobile headlight frame as fast as one could be driven. **(The three heads can be operated simultaneously or individually as desired.)** Just another instance where Detroit Power Screwdrivers do the unusual.

Have you an assembly problem? Tell us about it. Let us show you how you, too, can profit by the marvelous speed and incredibly low-cost operation of these versatile machines. Get details and our recent catalog.

DETROIT POWER SCREWDRIVER CO.

2819 W. FORT ST. DETROIT 16, MICH.

For more details circle NED-621 F3 on enclosed inquiry slip

PERECO *Electric* FURNACES

MODEL TF-24

Operating temperature 2400° F.

For Heat Treating and Porcelain Enameling

Where you need a roomy work chamber (36" w. x 48" d. x 24" h.) this new model TF-24—typical of the line of Pereco Electric Kilns—offers "top" performance from every standpoint. Globar elements deliver closely controlled temperatures over the full range up to 2400° F. Powered for extremely rapid "recovery" time. Counterbalanced door is foot controlled. Ideal for wide range of work—including heat-treating and porcelain enameling. Handles 350 lbs. of metal per hour. Atmosphere-tight, all-welded steel construction.

Write Today For Details

For your specialized need Pereco offers standard or special units from 450°F. to 5000°F.

PERENY EQUIPMENT COLUMBUS O.

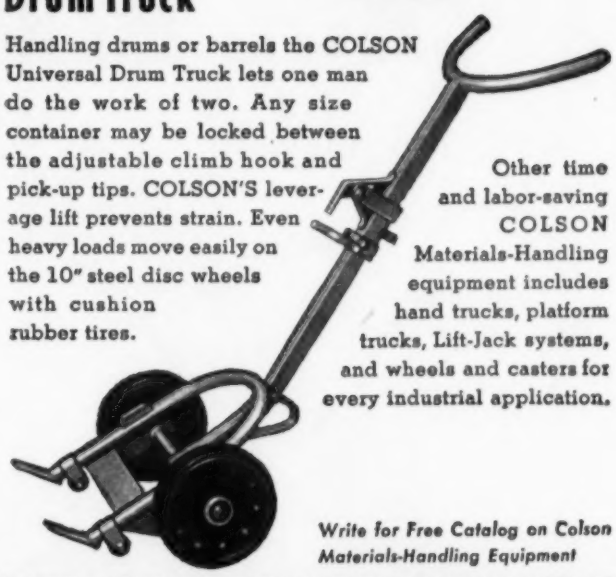
PERENY EQUIPMENT CO.

Dept. G, 893 Chambers Rd., Columbus 12, Ohio

For more details circle NED-622 F3 on enclosed inquiry slip

The Colson Universal Drum Truck

Makes LIGHT of Heavy LOADS



Handling drums or barrels the COLSON Universal Drum Truck lets one man do the work of two. Any size container may be locked between the adjustable climb hook and pick-up tips. COLSON'S leverage lift prevents strain. Even heavy loads move easily on the 10" steel disc wheels with cushion rubber tires.

Other time and labor-saving COLSON Materials-Handling equipment includes hand trucks, platform trucks, Lift-Jack systems, and wheels and casters for every industrial application.

Write for Free Catalog on Colson Materials-Handling Equipment

THE COLSON CORPORATION

ELYRIA, OHIO

CASTERS • LIFT-JACKS • INDUSTRIAL TRUCKS

For more details circle NED-623 F3 on enclosed inquiry slip

CLUTCHES by ROCKFORD

Irons A Whole Sheet With A Single Pass

The American Laundry Machine Company's Super-Sylon Flatwork Ironer irons table and bed linens so gently that it will iron paper napkins. ROCKFORD CLUTCHES are specified for American multiple chest flat-work ironers. Let ROCKFORD clutch engineers help your product designers specify the precise power transmission control needed for your machines.

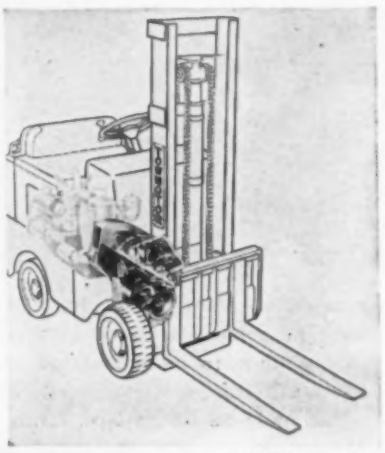
B-W ENGINEERING MAKES IT WORK B-W PRODUCTION MAKES IT AVAILABLE ENGINEERING BULLETIN SENT ON REQUEST

ROCKFORD CLUTCH DIVISION BORG-WARNER

312 Catherine Street, Rockford, Illinois, U. S. A.

For more details circle NED-624 F3 on enclosed inquiry slip

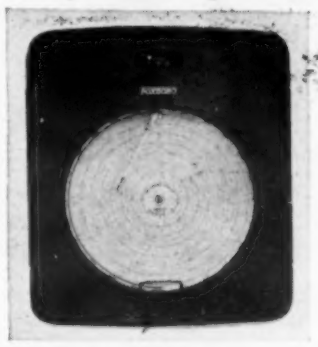
TORQUE DRIVE for fork lift trucks



Elimination of jerking, bucking, clutch slippage and other hazards attendant to handling heavy and precarious loads is possible with the Towmo-Torque drive, developed for Towmotor fork lift trucks. It is a heavy duty air and oil-cooled torque converter drive with a capacity range to match requirements of varied Towmotor power plants. A steering column lever controls forward and reverse movement and a creep control pedal permits "inching." Developed by **Towmotor Corp.**, 1219 E. 152nd St., Cleveland 10, O.

For more details circle NED-625 F3 on enclosed inquiry slip

CHEMICAL FEEDER makes feeding pump automatic



Instrumentation designed for application to the Lapp Pulsafeeder pump permits automatic feeding of treating chemical either to maintain uniform concentration or to correct variations of pH in any continuous process. Driven by a constant speed electric motor, the pump is controlled through a pneumatic cylinder which varies the piston stroke length to change the feed rate. Cylinder is automatically positioned by a Foxboro pneumatic transmitter or Dynalog controller (shown), depending upon whether chemicals are to be proportioned to flow or added to control the pH of a fluid. Any number of supplementary indicators, recorders or controlled diaphragm feeders can be operated from one pneumatic signal. Made by **Foxboro Co.**, 26 Neponset Ave., Foxboro, Mass.

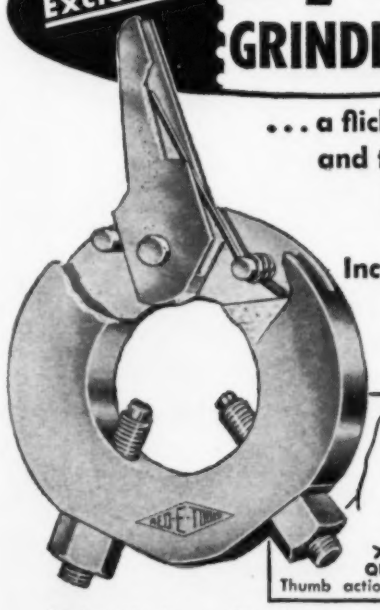
For more details circle NED-626 F3 on enclosed inquiry slip

Rotary Pumps

Geo. D. Roper Corp.—Catalog 953 illustrates and describes rotary pump line for manufacturing, marine, petroleum and process industries. Four standard series are manufactured in capacity ranges between 40 to 300 gpm at 60 psi and 5 to 75 gpm at 1000 psi.

For more details circle NED-627 F3 on enclosed inquiry slip

Exclusive RED-E CAM ACTION GRINDER DOG



... a flick-of-the-finger and the dog is off. ELIMINATES RESETTING! Increases production saves time, labor, money!

QUICK AS A FLASH! Thumb action releases pressure of cam.

Don't settle for anything less! Enjoy quick change-overs and simple installation. Perfectly balanced, accurate and adjustable. RED-E CAM ACTION DOGS *never mar the work . . . they hold fast.*

Send for the RED-E Grinder-Milling Dog Catalog. Your first step to Increased Grinding Production . . . Lower Costs!

GRINDER-MILLING DOG *Specialists since 1908*

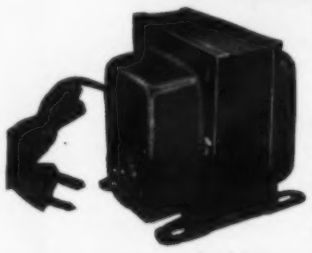
RED-E-TOOLS READY TOOL COMPANY

561 Iranistan Ave. • Bridgeport 5, Conn.

For more details circle NED-628 F3 on enclosed inquiry slip

MAKE EVERY MACHINE INDEPENDENTLY LIGHTED WITH ACME ELECTRIC STEPDOWN TRANSFORMERS

• Acme Stepdown Transformers are available in standard ratings from 75 to 2000 watts. Ready for easy installations.



Motorized machines that are individually lighted (with a concentrated light at the working area) can be shifted in production lines with a minimum of expense and delay. An Acme Electric stepdown transformer mounted on the machine and connected to the power line can supply proper voltage for lighting requirements. Investigate this modern method of completely electrifying machinery.

ACME ELECTRIC CORPORATION

306 WATER ST. CUBA, N.Y.

Acme Electric

For more details circle NED-629 F3 on enclosed inquiry slip

SUB-MINIATURE PILOT LIGHTS *Approved* for AIRCRAFT

AND IMPROVED IN IMPORTANT DETAILS

DIALCO

A great aid to your miniaturization program

SUB-MINIATURE INDICATOR ASSEMBLIES

ACTUAL SIZE

NON-DIMMING No. 8-1930-621

MOUNT IN 15/32" HOLE ALL LENS COLORS

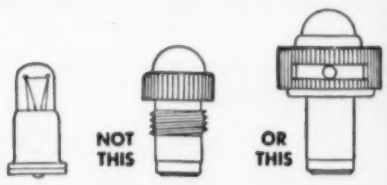
Easy lamp replacement with any midget flanged base lamp types

Complete blackout or semi-blackout dimmer types

ACTUAL SIZE

MECHANICAL DIMMER No. 11-1930-621

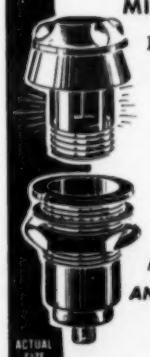
THESE ASSEMBLIES LOGICALLY REPLACE LAMPS NO. 319, 320, and 321



REPLACE WITH THIS NOT THIS OR THIS

PLASTIC PLATE (EDGE) LIGHT ASSEMBLIES

AIR FORCE and BUREAU of AERONAUTICS MIL-L-7806 DRAWING MS-25010



DIALCO *No. TT-51* (Red filter-black top) or, *No. TT-51A*, complete with No. 327 Lamp

ALSO MADE with other filter colors and with *light-emitting top* (for indication)

ALL OF THE ASSEMBLIES ILLUSTRATED ACCOMMODATE LAMPS NOS. 327, 328, 330, and 331.

ANY ASSEMBLY AVAILABLE COMPLETE WITH LAMP

ACTUAL SIZE

SAMPLES ON REQUEST—NO CHARGE

Foremost Manufacturer of Pilot Lights

DIALIGHT CORPORATION

60 STEWART AVENUE, BROOKLYN 37, N. Y. HYACINTH 7-7600

For more details circle NED-630 F3 on enclosed inquiry slip

Nicholson Superior Milled Curved Tooth File (rigid type)

Changing personnel in industry creates a never-ending educational need on the subject of files and filing. In the shop-school the logical teacher is usually the shop foreman or production superintendent. The logical text-book is Nicholson's "FILE FILOSOPHY." "File Filosophy" has become universally accepted as an authority and practical guide in the art of filing.

WRITE FOR FREE COPY

"FILE FILOSOPHY" contains 48 informative, illustrated pages on the manufacture, kinds, use and care of files. Indispensable to production heads, shop foremen, purchasing agents. How many copies can you use? No charge. No obligation. Write to—

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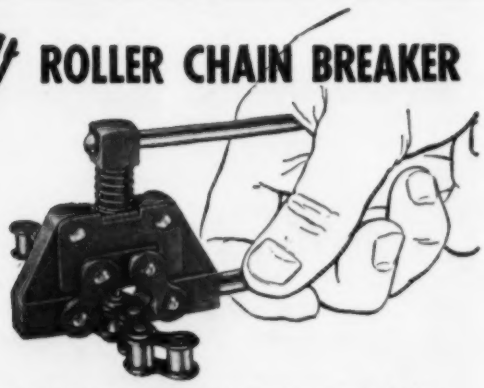
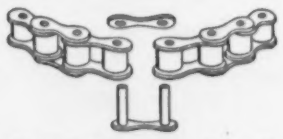
132 LAFAYETTE ST., NEW YORK 13

For more details circle NED-631 F3 on enclosed inquiry slip

New ROLLER CHAIN BREAKER



BREAK CHAIN IN SECONDS without damage to chain.



BREAKS ANY SIZE CHAIN No. 25 to No. 60.

BOSTON GEAR QUALITY THROUGHOUT Vital parts heat treated for wear-resistance and high strength.

AT YOUR BOSTON Gear DISTRIBUTOR Ask for new Chain Breaker folder. Explains simple operation.

Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

BOSTON Gear
POWER TRANSMISSION PRODUCTS

For more details circle NED-632 F3 on enclosed inquiry slip

BALANCING MACHINES
shows unbalance in rotating parts

Less than 1 minute and a single run are required to determine the amount and location of dynamic and static unbalance in rotating parts with the Schenck electro-dynamic balancing machines. German-made machines are offered in nine models with weight capacities ranging from a few ounces to over 100 tons. Electrical measuring system indicates unbalances caused by displacements of as little as 0.00004-in. from the center of gravity. Measurements are indicated on a wattmeter which records only unbalance vibrations. Balancers can be combined with machine tools to check, correct and inspect parts in one set-up. Available from **Cosa Corp.**, 616-624 Chrysler Bldg., New York 17, N. Y.

For more details circle NED-633 F3 on enclosed inquiry slip

CUSTOM CONVERTERS
with 300, 400 and 500-w ac outputs

Made in output capacities of 300, 400 and 500-w ac, line of direct-to-alternating current custom converters includes models to operate from battery or line power of 12, 24, 28, 32, 64, 115 or 230-v dc. Compact, portable, rotary units will operate amplifiers, business machines, recorders, and marine and mobile communications equipment. Transformer grade armature laminations are cross stacked to reduce eddy current and hysteresis losses. Triple and quadruple insulated magnet wire assures maximum protection from shorted windings. All units are available with manual frequency control, heavy duty electronic measuring devices and tape-recorder motor driven camera combinations. Made by **Carter Motor Co.**, Dept. 12, 2660 N. Maplewood Ave., Chicago 47, Ill.

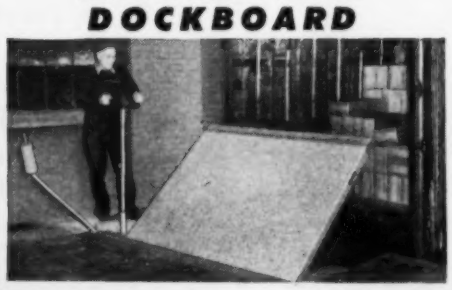
For more details circle NED-634 F3 on enclosed inquiry slip

Grinding Segments

Robertson Mfg. Co.—Standard shapes for all types of segmental grinding chucks are featured in bulletin "Supercast Segments". Special manufacturing methods and a wide variety of available compositions assure good application results. Bulletin contains hints on correct grinding practice, together with detailed job tooling information.

For more details circle NED-635 F3 on enclosed inquiry slip

HERCO
4 WAY -- Up-Down-Right-Left
COUNTERWEIGHT ACTION
DOCKBOARD



Improved, positive geared counterweight action. (Assures board contact with truck at all times.)
Simplified geared side to side adjustment.
Installation made easy with new design.
Operates in all kinds of weather.
Right or left hand control.
Automatic locking in raised position.

● NO MAINTENANCE OR UPKEEP ● BUILT TO MEET TODAY'S TOUGH DOCK PROBLEMS ● LOW IN COST ● ECONOMICAL INSTALLATION.

Karl A. HERMAN Company
412 FULLER AVE., N. E.
GRAND RAPIDS, MICH.

For more details circle NED-636 F3 on enclosed inquiry slip

Convert vital scrap into bigger Profit

With a **MILWAUKEE** Briquetting Press you can quickly convert low-grade bulk turnings and borings into profitable high-grade scrap. It automatically produces dense cylindrical briquettes which are suitable for direct charging into furnace or foundry cupola. Saves storage space . . . reduces scrap handling costs . . . conserves the vital metals needed for defense and civilian production. Six models with capacities ranging from 3/4 to 3-1/2 tons per hour available. **Buy the press that pays for itself—the MILWAUKEE Briquetting Press!**

1009-S3 *Write today for Bulletin No. 117 for complete data and specifications.*

SPO MILWAUKEE *Foundry Equipment Division*
6475 Grand Division Ave. • Cleveland 25, O.

For more details circle NED-637 F3 on enclosed inquiry slip

SPIROL'S radial spring action fastens better!

SPIROL PIN

Does the job here

and here too!

Radial SPRING ACTION MAKES SPIRAL COILS SHOCK-PROOF!

From tiny eyeglass-hinge pivots up to ½" or larger fastenings used in locomotives, the all-around tension of spiral coils gives SPIROL PIN unique fastening properties. When compressed by insertion, SPIROL PINS develop *evenly distributed* radial spring tension — no weak "hinge" lines. This spring action locks SPIROL PIN in place — eliminates close tolerances — allows easy removal and re-use of pin. True radial flexibility permits shock-proof fastening of hard and soft materials — eliminates internal stresses in component parts. SPIROL PINS have chamfered ends for easy insertion.

FREE! Write for illustrated folder and sample SPIROL pins.

C. E. M. COMPANY
30 SCHOOL STREET • DANIELSON, CONN.

For more details circle NED-638 F3 on enclosed inquiry slip

SAVE UP TO 85%

WAR SURPLUS SAVINGS

NEW INSIDE - OUTSIDE VERNIER CALIPERS
German made by one of Europe's leading specialists in precision tools. Measures inside-outside & depth in .001" to 6" in 1000ths and 1/10mm to 150mm in 10ths. 9.75
MICROMETERS – 0" to 1" in 1,000ths. Has lock-nut & ratchet ...ONLY – . . . 9.75

STAND MAGNIFIER
Handy stand magnifier with universal adjustments. Overall height 6". Has powerful, clear magnifying lens. 1.99

BENDIX HYDRAULIC PUMP & MOTOR
Has 3-1/2 GPM capacity at 600 PSI. Motor is 1½ HP, 24V, D.C. Will operate on either 12 or 32V, DC current. Has built-in relief valve adj. to 1500 PSI. This unit ideal for hyd. lifts, portable loaders, etc. 19.50

MAGNETIC BASE-INDICATOR HOLDER...
A time saver for precision checking. Magnetic base fits curved or flat surface. Has 45-50 lb. pull. Stainless steel 6½" rod mounted in ball socket permits universal settings . . 3.95
Note: We have complete line of instruments, depth gauges, inspection mirrors, etc. WRITE TODAY

HYDRAULIC HAND PUMP
Operating pressure 2000 PSI. Cap., 1.5 cu. in per complete cycle . . . 12.75

GEAR HEAD MOTORS
Heavy duty, G.E. Gear Head motor. 2 HP, 24V. DC, 125 amp., reversible motor drives a reduction gear unit giving 36 to 1 ratio at take-off. Also will operate on 6 or 12 volts.
36 to 1 G.E. (306 shaft RPM)
28 to 1 Eclipse (130 shaft RPM)
40 to 1 Eclipse (110 shaft RPM)
10.95 EA.

HYDRAULIC ACCUMULATORS
A-28 FLOATING PISTON TYPE – 4" x 18" Built to stand 2,000 PSI 12.75
A-5 VICKERS – 10" dia. Bolt type. Built to stand 2000 P.S.I. 24.75

ELECTRIC ACTUATORS
Hundreds of uses for any mechanical device needing controlled 2 way action. Opens, closes, raises or lowers doors – windows – gates – valves. CTU-2 – Ferste Linear Actuator – 24 volt, DC, 8500 RPM, 1/6 HP – series wound motor. 4½" stroke in 13½ sec. Compression and tension loads up to 750 lbs. Adjustable micro switch for limits of travel. Overall lngth., retracted 11" 7.95
We also carry many more sizes and types of Actuators. Write today for information.

HYDRAULIC CYLINDERS
Gives 20,000 lbs. thrust (push or pull) using 1500 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lbs. thrust with 3000 PSI. Can also be used on low pressure air systems. 4" bore; 18" stroke; 30½" length. Ideal for ram forms – shop machinery. 29.75

No. 5 HYDRAULIC CYLINDER
Double action. Bore is 1" – Shaft ½". Has stroke of 2½" to 4". Stroke can be adjusted with internal sleeve stops. Overall length is 8½". Will take 1500 lbs. continuous duty. 3000 lbs. intermittent. Will lift or push up to 1100 lbs. 5.75
We stock over 30,000 Hydraulic Cylinders, Valves, Pumps, Accumulators, Hand Pumps, Motors, Hose, etc. All at Money Saving Prices.

230 Pg. CATALOG
Amazing Values! 1000's of items for Mfgr., Mechanic, Sportsman, etc. Save on Machine Tools, Hydraulics, Pumps, Valves, Hand & Power Tools, Instruments, etc. Send for your copy today!

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Order from this ad. Pay by M.O. or check. P.O's accepted from O&B firms. ½ deposit with C.O.D's. All Prices F.O.B. Los Angeles

For more details circle NED-639 F3 on enclosed inquiry slip

HUMIDITY

Within 1° Wet Bulb

If controlled air conditions are necessary for some important testing and research, here is a cabinet that provides 6 cubic feet of controlled air in constant circulation. Within the range of 40° F. to 140° F., this cabinet will maintain both dry and wet bulb temperatures within 1° F.
Heating and cooling, humidifying and drying, are all controlled automatically and uniform conditions are maintained as long as the unit is in operation. Outside indicators reveal the conditions inside the box at all times.

AIRE-REGULATOR

Constant Temperature and Humidity Cabinets are now in use by prominent laboratories in many lines for testing and research. Among the users are food manufacturers of all kinds producing bakery products, flour, packaged mixes, cheese, yeast, beer, candy and meat products; others are manufacturers of pharmaceuticals, photographic supplies, paints and varnishes, chemicals, insulating materials, instruments, box board, paper tape and crude oil products. Wherever there is a need for checking the action of temperatures and humidity there is a need for an Air-Regulator. Write for bulletins and tell us your requirements.

FOOD TECHNOLOGY INC.
5925 Northwest Highway
Chicago 31, Illinois

FOOD TECHNOLOGY, INC.

For more details circle NED-640 F3 on enclosed inquiry slip

ARO BLOW GUN

Metered air pressure!

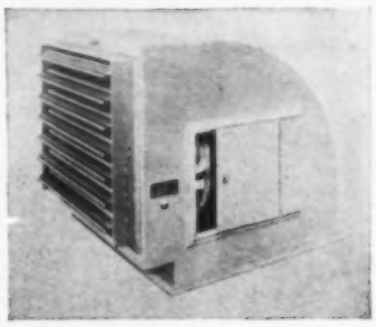
●Throttle valve meters air exactly...just press for more pressure ...or set for *fixed pressure.*
●Extremely simple design.
●Easy to use—fits your hand.
●One piece cast housing—sturdy, rugged construction.
●For wide range of cleaning jobs in shops, foundries, production, inspection, shipping, etc. Write for details.

The Aro Equipment Corp., Bryan, Ohio
Offices in All Principal Cities
Aro Equipment of Canada, Ltd., Toronto, Ont.

ARO BLOW GUN
Also . . . Air Tools . . . Lubricating Equipment . . . Hydraulic Equipment . . . Aircraft Products . . . Grease Fittings

For more details circle NED-641 F3 on enclosed inquiry slip

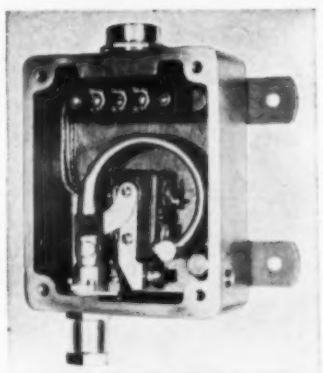
PENTHOUSE FAN
designed to reduce noise



Streamlining to reduce air impact and rumble and undercoating with a noise - deadening material serve to make type PH and PHD penthouse fans quiet in operation. Overhanging front section has a by-pass tray that discharges back on the roof any water which may pass shutters in severe rain storms. Motors are totally enclosed or explosionproof. Insulation is available on interior walls of both units to prevent corrosion and conserve heat. Sizes from 12 to 60 in., 5000 to 40,000 cfm, are available. Type PH takes a belt drive fan, while PHD unit takes direct drive fan. Fans are built to Commercial Standard CS 178-51 and ratings are those of Propeller Fan Manufacturers' Association. Made by **Chelsea Fan & Blower Co.**, Dept. NED, 639 South Ave., Plainfield, N. J.

For more details circle NED-642 F3 on enclosed inquiry slip

PRESSURE SWITCHES
have variable actuation valves



Six classes of proof pressures, to 500, 1500, 3000, 4500, 6000 and 12,000 psi, are provided in model 314 Meletron pressure switches. They provide accurate sensing of system pressures over an adjustable range of 15 to 10,000 psi and are suitable for liquid, gas or water systems. They are available with external adjustment if setting requires frequent changes. Variable actuation value ranges from 10 to 2000 psi, depending on switch class. Actuation can be on increasing or decreasing pressure, automatically reset by snap action of switch. Model 304 skeleton switches with same operating characteristics, but without case, are also available. Made by **Barksdale Valves**, 1564 E. Slauson Ave., Los Angeles 11, Calif.

For more details circle NED-643 F3 on enclosed inquiry slip

Carbide-Tipped Saws

Deluxe Saw & Tool Co.—Catalog K-53 on carbide-tipped circular saw blades for laminates, nonferrous metals, plastics and abrasive materials contains 12 pages, includes specifications of a number of different models and hints on their use.

For more details circle NED-644 F3 on enclosed inquiry slip

FAMOUS "CHEM-BOARD"* CONVOY TOTE BOXES

*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES
Sold Only by YOUR LOCAL STATIONER
Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-N

For more details circle NED-645 F3 on enclosed inquiry slip

Permanently Readable

Write for free book with full color examples of our plates.

TO identify your product clearly and to make sure your instructions are permanently readable, use our high quality metal plates. We'll gladly help design plates that reflect your pride and match the quality of your product. Skilled craftsmen, modern equipment assure enduring satisfaction. Send rough sketch or blue print for design suggestion and quotation, without obligation.

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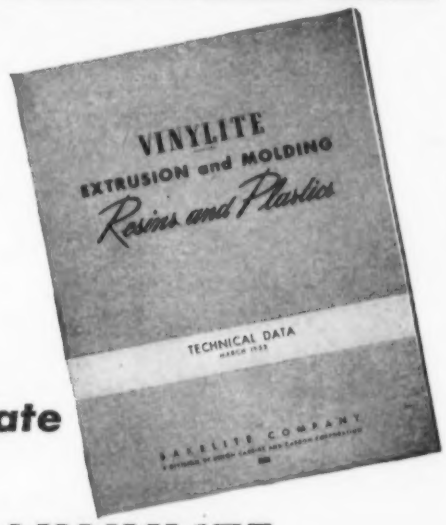
1555 N. SHEFFIELD AVE., CHICAGO 22, ILL., DEPT. U
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

For more details circle NED-646 F3 on enclosed inquiry slip

Keep up-to-date on



VINYLITE RESINS and PLASTICS!

SEND FOR YOUR COPY TODAY

It's new, *completely up-to-date*—a fully illustrated booklet packed with technical data on VINYLITE Resins and Plastics for extrusion and molding. It will help you in the design and manufacture of parts and products produced from rigid or elastomeric molding and extrusion compounds. You'll value it as a reference book for such features as the section titled "Suggestions for the Design Engineer," or the "Average Properties Tables." Black and white and full-color photographs show typical applications.

VINYLITE Plastic *elastomeric* extrusion and molding compounds stay flexible at –67 deg. F. . . . hold their toughness, resist deformation in temperatures as high as 140 deg. F. These compounds provide smooth, glossy surfaces that can be embossed and printed. Colors—stock, made-to-order or specially matched—have excellent stability, will not bleed. VINYLITE *rigid* extrusion and molding compounds make it possible to fabricate products of sharp detail with close tolerances. Finish is smooth . . . mold shrinkage low. *All* VINYLITE Plastics have excellent resistance to moisture, mildew, abrasion, oils, greases, alkalies, most strong acids, sunlight, flame and age. They are dimensionally stable, light and strong, offer good electrical characteristics . . . can be compounded in any color—transparent, translucent or opaque.

This new booklet may show you the way to new or improved products through use of VINYLITE Plastics. Send for your free copy now. Use the convenient coupon.

Be sure to visit the Bakelite Company's exhibit at the Basic Materials Show, Grand Central Palace, New York, June 15-19

Vinylite BRAND PLASTICS
TRADE MARK
BAKELITE COMPANY
A Division of Union Carbide and Carbon Corp.
30 East 42nd St., New York 17, N. Y.

BAKELITE COMPANY, Dept. QE-53
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, New York
Please send me, without cost or obligation, a copy of booklet M-2, "VINYLITE Resins and Plastics."
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Company_____
Street_____
City_____ State_____

For more details circle NED-647 F3 on enclosed inquiry slip

Increase Production of Fines by 300% with

STURTEVANT CENTRIFUGAL AIR SEPARATORS

Accurate Separation of Fines from 40 to 325 Mesh and Finer . . .

Output Capacity from ¼ to 50 Tons Per Hour

Records prove that Sturtevant Air Separators cut separation costs of various materials by as much as 300%. In addition, they provide additional economies by reducing power costs up to 50%. That's why you'll find hundreds of these separators in all types of industries. Ruggedly constructed of quality materials, Sturtevant Air Separators keep on working day after day with minimum maintenance. They are available in many sizes from ¼ to 50 tons per hour output.

Investigate cost-cutting Sturtevant Air Separators for your plant. Write for catalog and information, today.

STURTEVANT MILL COMPANY
114 CLAYTON STREET, BOSTON 22, MASS.

Designers and Manufacturers of

CRUSHERS • GRINDERS • SEPARATORS • CONVEYORS
MECHANICAL DENS and EXCAVATORS • ELEVATORS • MIXERS

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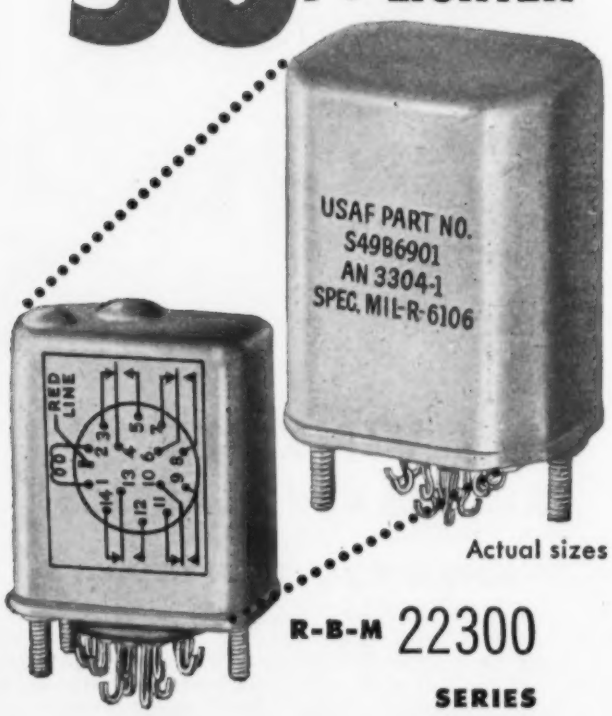
50% SMALLER LIGHTER



Actual sizes

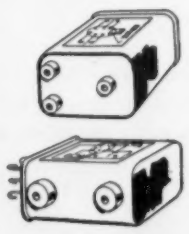
R-B-M 22300 SERIES

Hermetically Sealed Relays

The R-B-M 22300 hermetically sealed telephone type relay is the electrical and mechanical equivalent of AN 3304-1, except for smaller size and mounting dimensions.

An improved armature design, plus high temperature molded nylon coil bobbin, provides greatly improved magnetic efficiency and enables R-B-M to reduce the overall size of the relay. The R-B-M 22300 design still retains palladium cross-bar contacts identical to those used in the larger size.

Maximum contacts—6 Form A and 4 Form C—3 ampere 28 Volts. D. C. coil construction only. Maximum coil resistance 5000 ohms. Minimum power .75 watts. Also available in AN 3304 can for dynamotor or low capacitance application.



Optional Mounting Arrangements

Write Dept. K6 for ASR Bulletin.

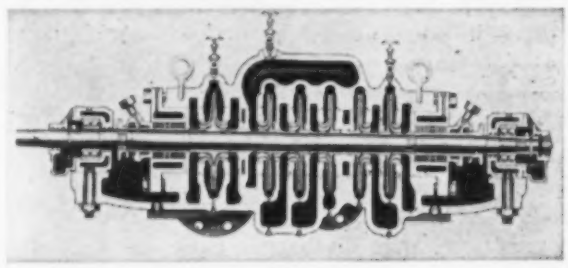
R-B-M DIVISION
ESSEX WIRE CORP.
Logansport, Indiana

MANUAL AND MAGNETIC ELECTRIC CONTROLS
—FOR AUTOMOTIVE, INDUSTRIAL, COMMUNICATION AND ELECTRONIC USE

▲ For more details circle **NED-649 F3** on enclosed inquiry slip ▲

CENTRIFUGAL PUMPS
with capacities up to 1300 gpm

Designed for boiler feed service, line of five, six and seven-stage Thrustfre centrifugal pumps can also be used for other high temperature, high pressure applications. Capacities range up to 1300 gpm and heads to 1200 psig in 2½, 3, 4 and 5-in. sizes. Photo shows a typical six-stage pump. Stuffing boxes at both ends are subject to low pressures, suction at one end and first stage pressure only at the other. Pumps feature a method of effecting nonleakage dynamic hydraulic balance for thrust-free performance. Made by **Pennsylvania Pump & Compressor Co.**, 14 Bushkill Dr., Easton, Pa.



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COMPACT ALARM UNIT
for flow line and graphic panels

A narrow bezel and overall compactness make Monolarm visual signal alarm unit especially valuable for modern flow line and graphic panels where instrumentation space is at a premium. Lighting indications can be in two or three colors on one bezel, and for safety, the plug is interlocked with a sealed main switch so that the unit cannot be connected or disconnected under load. An external howler may be used in addition to the flashing alarm light if desired. Made by **Russell & Stoll Co.**, Dept. 15, 125 Barclay St., New York 7, N. Y.

▲ For more details circle **NED-651 F3** on enclosed inquiry slip ▲

Air-Operated Controllers

Bristol Co.—Instruments for automatic control of pressure, temperature, liquid level, flow, humidity, pH and electrical variables are found in illustrated 32-page bulletin A120. New products include time-program controllers and electronic Dynamaster potentiometers and bridge instruments.

▲ For more details circle **NED-652 F3** on enclosed inquiry slip ▲

VULCAN

In addition to Electric Heating Units and Electric Soldering Tools Vulcan makes these

ELECTRIC HEATING DEVICES

VULCAN ELECTRIC CO
DANVERS VULCAN MASS

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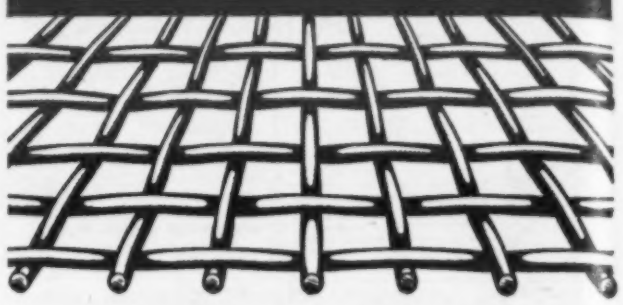
CAL-WIC WIRE CLOTH



meets all STANDARD and SPECIAL requirements

Either as original equipment or for specialized uses in filtering, screening, grading, cleaning or processing, Cal-Wic Wire Cloth is available in the right weave, mesh and weight to give you long-wearing, dependable service.

Made in different types of metals and alloys for high resistance to chemical action, corrosion, abrasion and temperature extremes.

For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Clinton, Massachusetts

CAL-WIC CFI
INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

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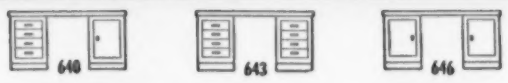
"640" series

HALLOWELL UNIT WORK BENCHES

Multiple unit design enables you to *custom build* these HALLOWELL benches to fit your requirements. Standardized construction permits individual or continuous installations . . . provides interchangeability with other HALLOWELL benches of similar dimensions. Stocked and sold by leading industrial distributors. Write for literature. SPS, Jenkintown 24, Pa.

3 basic models for your convenience



Our Fiftieth Year : A START FOR THE FUTURE

HALLOWELL SHOP EQUIPMENT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

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Fine machines begin with FINE BEARINGS

For more than four decades designers of fine machines have found that Ahlberg Precisioneered bearings offer outstanding opportunities for improving design, increasing efficiency, reducing maintenance and cutting cost. Ahlberg Bearings can improve your products' future, too. Let's talk it over. Ahlberg Bearing Company, 3025 W. 47th St., Chicago 32, Illinois.

AHLBERG
BALL BEARINGS
ENGINEERED AND BUILT FOR THE WORLD'S FINEST EQUIPMENT

AUTOMOTIVE . . . INDUSTRIAL . . . AIRCRAFT . . . MARINE . . . ARMAMENT

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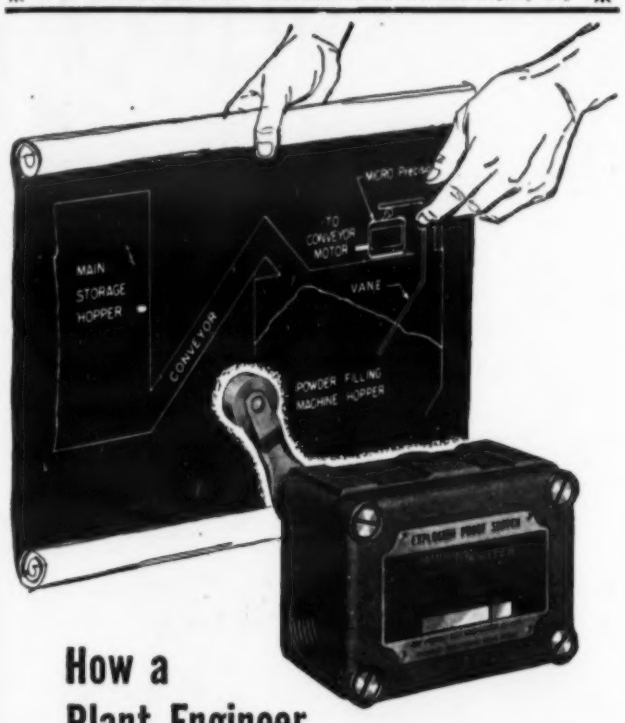

How a Plant Engineer made hopper-loading AUTOMATIC ...with a MICRO switch

● A Midwestern plant engineer installed an explosion-proof MICRO switch in the motor circuit of his powder loading conveyor.

As the hopper fills to the predetermined point, pressure of a pivoted actuating vane in the machine hopper operates the switch and halts the conveyor bringing powder from the main storage hopper.

This simple but important installation is typical of the thousands of uses that plant engineers are making every day of these versatile, precise snap-action switches to make present equipment safer, more automatic and more productive.

If you are looking for new ways to make existing plant equipment safer and more automatic, you will find a MICRO Authorized Distributor located near you with a full line of switches to meet a wide variety of applications. Look in your classified telephone directory under "Switches, Electric." Write for MICRO TIPS . . . a veritable gold mine of practical switch application ideas. We'll be glad to put you on the mailing list.

MICRO
MAKERS OF PRECISION SWITCHES
FREEPORT, ILLINOIS
A DIVISION OF
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

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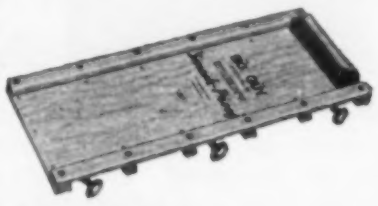
SMASHPROOF CREEPER rolls over irregular surfaces

Forty inches long and made with six casters the smashproof Big Guy creeper will roll over cracks, holes and other irregularities found in floors. Width is 16 in. and weight is 16 lb. Six casters enable use by heavy persons and low floor clearance permits entry under low objects. Made by **Smash-Proof Co.**, 60 State Rd., Ashtabula, O.



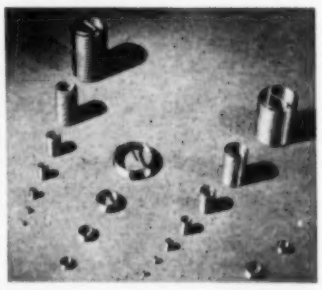
▲ For more details circle NED-659 F3 on enclosed inquiry slip ▲

AIR-POWERED ANGLE GRINDER speed is 6000 rpm at 90 psi

Suitable for fast, safe operation on all surface grinding, cut-off and sanding jobs, air-powered direct drive 2FA-60 angle grinder has speed of 6000 rpm at 90 psi. A straight and a 30-degree dead handle can be attached to either side of grinder. Latter can be rotated to any one of four positions to adapt grinder for corner grinding or for right or left handed operators. Built-in lubricator, effectively muffled motor, an adjustable exhaust deflector, heavy-duty ball bearings and quick-acting throttle are features. Made by **Ingersoll-Rand Co.**, News Service Dept., Phillipsburg, N. J.

▲ For more details circle NED-660 F3 on enclosed inquiry slip ▲

WIRE THREAD INSERTS now offered in 47 standard sizes



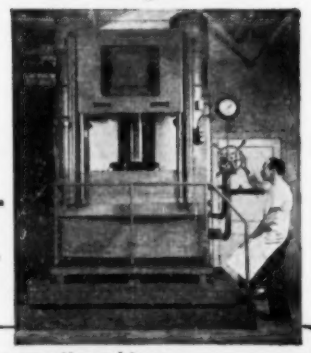
Usable in aluminum, magnesium, iron, steel, brass, fiber, wood, plastics and other materials, Heli-Coil wire threads provide high load strengths and resistance to wear, vibration, seizing, galling and corrosion. Forty-seven standard sizes now available include 10-1.0-mm to ⅞-18 automotive Spark Plug series; 4-40 to 1½-6 in National and Unified Coarse Thread series; ⅛-27 to 1-11½ in National Pipe Thread series; 6-40 to 1½-12 in National and Unified Fine Thread series; and 14-1.25 to 18-1.5 mm in Aviation Spark Plug series. Inserts for National and Unified Thread series are supplied in 1, 1½, 2, 2½ and 3-diameter lengths. For special applications, nonstandard thread sizes and lengths can also be supplied. Made by **Heli-Coil Corp.**, Dept. NED, 1380 Shelter Rock Lane, Danbury, Conn.

▲ For more details circle NED-661 F3 on enclosed inquiry slip ▲

Important addition

To SUMMIT-ROBERTS TOOL CO.

... a 2500 ton hobbing press

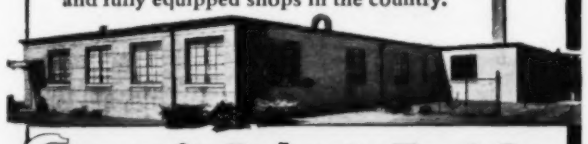


For over 20 years we have hobbed cavities in only the highest quality hobbing steel. Now, by industry demand we offer our services to cold hobb your cavities for

MOLDS for Plastics
Die casting Dies

We can make the hobbs or use yours.

Visit our plant personally and inspect our modern facilities, where you will see one of the most unusual, outstanding and fully equipped shops in the country.



Summit-Roberts Tool Co.
830 NEW YORK AVE. • TOLEDO, OHIO

▲ For more details circle NED-662 F3 on enclosed inquiry slip ▲

QUIET COOLING TOWER DRIVE FOR HIGH SPEED OPERATION

THIS worm gear Cleveland CU unit is designed specifically for cooling tower service. Rugged, efficient, compact, it easily handles heavy-duty fans at high speeds under extreme conditions of heat and humidity—Q-U-I-E-T-L-Y.

Simple in design, foolproof in operation. Easily installed, serviced and adjusted. So inherently quiet as to be ideal for use in air conditioning of industrial and public buildings, offices, stores, hotels, theaters, etc.

Bulletin 135 gives sizes, dimensions and horsepower ratings. Write for yours today. The Cleveland Worm & Gear Company, 3283 East 80th Street, Cleveland 4, Ohio.

CLEVELAND WORM & GEAR COMPANY
Speed Reducers
Affiliate: The Farval Corporation, Centralized Systems of Lubrication

▲ For more details circle NED-663 F3 on enclosed inquiry slip ▲

PROBLEM: To get accurate positioning from female centers.

ANSWER: Lap the centers.

Ex-Cell-O Center Lapping Machines correct inaccuracies of rough centers, assuring GREATER PRECISION from your present equipment. Center lapping reduces manufacturing costs by minimizing waste from grinding rejections; decreases assembly time because of closer tolerances; All the facts are in Bulletin No. 40271. Write Ex-Cell-O for a copy today.

53-29

CENTER LAPPING MACHINES
BY
EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN
XLO

▲ For more details circle NED-664 F3 on enclosed inquiry slip ▲

LOWERED INSURANCE COSTS BUY THIS SAFETY FLOOR PLATE

Reduced accident rates give you two benefits—increased production and lowered insurance costs. You can have these benefits by installing A.W. ALGRIP Abrasive Rolled Steel Floor Plate, because ALGRIP gives non-skid foot safety—even on steep inclines.

Alan Wood makes this tough, impact-and-heat-resistant floor plate by rolling abrasive "grinding wheel" grain into steel plate's upper portion. This gives the plate hundreds of tiny, hard-gripping safety brakes which—even when wet or oily—put an end to costly, morale-shattering accidents. And ALGRIP can't wear out—heavy use only exposes new abrasive particles.

Safe for vehicles and men alike, A.W. ALGRIP pays for itself with savings from safety. Write today for full information on how ALGRIP can make money for you. This coupon gets you Alan Wood's new booklet on ALGRIP.

A.W. ALGRIP *Abrasive Rolled Steel Floor Plate*
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

I want to learn more about ALGRIP savings from safety. Please send me your ALGRIP Booklet AL-6.

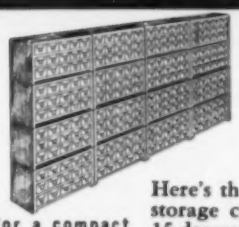
*Name*_____
*Company*_____
*Address*_____
*City*_____ *Zone*____ *State*____

▲ For more details circle NED-665 F3 on enclosed inquiry slip ▲

LARGER 2-INCH DEEP DRAWERS

FOR ALL SMALL PARTS STORAGE

"E-Z-C" PLASTIC DRAWER STORAGE CABINETS



TRADE PRICE $747

- Removable Dividers in Each Drawer
- Electric Weld All Steel Cabinet
- Name Plate Slot in Each Drawer
- Safety Catch Prevents Any Spilling
- Name Plate on Each Drawer

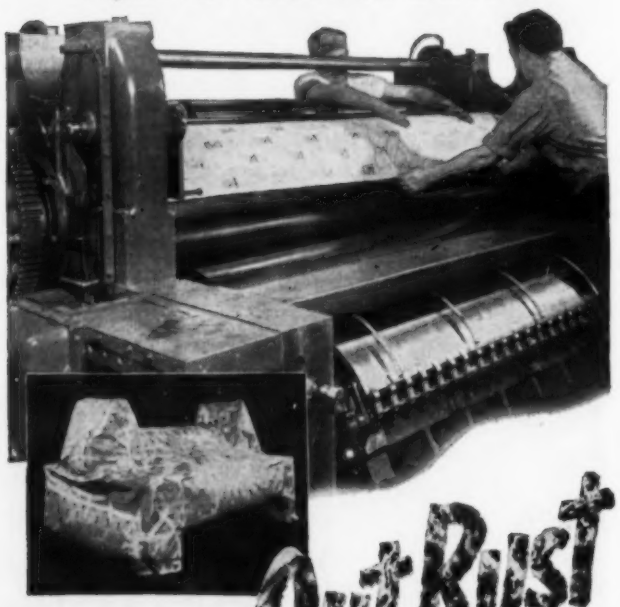
For a compact storage room, stock E-Z-C Cabinets up, side by side, or back to back. Send for descriptive literature.

Here's the newest, low-cost multi-purpose storage cabinet—strong enough to hold 15 drawers full of lead, yet minimum light in weight. The see-thru clear plastic drawers (¾" deeper than average size) show at a glance the parts or equipment they are storing. Increased convenience from the deeper drawers—15 drawers hold any and all parts, office supplies, etc.—for use in plant, office or home.

J. G. STILL EQUIPMENT COMPANY
1017 E. Ohio St. Pittsburgh 12, Pa.

For more details circle NED-666 F3 on enclosed inquiry slip

How Miehle Cuts Packaging Costs, Improves Customer Service!



Wrap Out Rust with NOX-RUST Vapor-Wrapper

Chemically Active Paper Blocks Rust in One Simple Operation

Follow the lead of the wide variety of companies that cut costs and improve service with NOX-RUST Vapor-Wrapper. As easy to use as wrapping paper, it rust-proofs everything from delicate instruments to huge machines . . . cuts costs while delivering products ready for use.

Miehle Printing Press & Mfg. Co. says: "Vapor-Wrapper saved 96 man-hours on just one shipment. It's more economical, cleaner, more convenient than anything we've used."

The exclusive, NOX-RUST chemical *within* Vapor-Wrapper makes moisture-laden air non-corrosive . . . *without the need for an air-tight package* . . . without deposits forming on the metal. Cut costs and improve service in *your* business with Vapor-Wrapper.

Vapor-Wrapper conforms to Military Specifications, MIL-P-3420, Packaging Materials, Volatile Corrosion Inhibitor Treated.

NOX-RUST VAPOR WRAPPER

NOX-RUST Chemical Corporation
2469 S. Halsted Street, Chicago 8, Ill.
Offices in Principal Cities

Clip to your letterhead and write for facts today!

NOX-RUST Chemical Corporation
2469 S. Halsted, Chicago 8, Illinois
Please send me your booklet on Vapor-Wrapper, the rust-preventive paper that *wraps out rust.*
*Name*_____ *Title*_____
*Firm*_____
*Address*_____
*City*_____ *Zone*____ *State*____

For more details circle NED-667 F3 on enclosed inquiry slip

COMMUNICATION SYSTEM for inter-office use

Automatic dialing and ringing are features of the executive station addition for Select-O-Phone inter-office communications equipment. Unit operates on a four-wire installation and is furnished either in polished walnut or mahogany or a variety of colors. It gives recognizable voice reproductions, and permits user to talk to from one to twenty different stations either singly or all at once. Made by **Kellogg Switchboard & Supply Co.,** Dept. 59, 6650 S. Cicero Ave., Chicago 38, Ill.

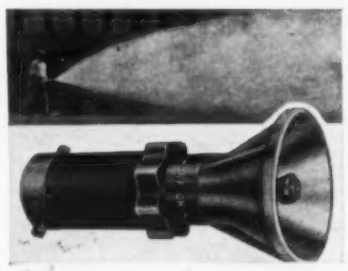
For more details circle NED-668 F3 on enclosed inquiry slip

SEALING ZIPPER is air and water tight

Operating like any other zipper, this slide fastener automatically seals itself against air and water. A pair of rubber lips folds over the metal teeth to perform the sealing. It is now commercially available. Formerly used on only military equipment, this zipper is shown applied to seal out moisture, dust and snow from detachable plastic rear windows on convertible automobiles. Various colors are available. Made by **B. F. Goodrich Co.,** Dept. E, 500 S. Main St., Akron 18, O.

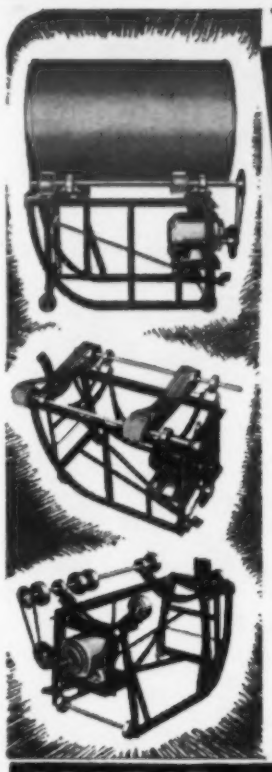
For more details circle NED-669 F3 on enclosed inquiry slip

FIRE NOZZLES utilize spiral fog principle



Model G-10 and G-15 spiral fog tip nozzle for 1½-in. hose combine nonclog features with good reach, coverage, and atomization at low pressures. Model G-15 has a fog capacity of 50 gpm and a straight stream capacity of 100 gpm, while model G-10 is suited for inside fire fighting where water damage must be minimized or where water and pump capacity are limited. It has a fog capacity of 25 gpm and a straight stream of 50 gpm at 100 psi. Both models are self-cleaning and nonclogging. In the straight stream position, the central core of the nozzle is completely removed, leaving a straight-through waterway which flushes out all dirt. Made by **Bete Fog Nozzle Inc.,** 85 Pierce St., Greenfield, Mass.

For more details circle NED-670 F3 on enclosed inquiry slip



THE NEW "200" MORSE PORTABLE ROTATOR

CAN BE ADAPTED TO MOST ROTATING JOBS!

The ROTATOR can easily be moved from one job to another or steered into close quarters. It is available for tumbling fibre drums as well as steel drums from 1 to 55 gallons. Designed by Morse, the ROTATOR has many practical uses and has been found to pay for its low cost many times over. This Portable ROTATOR meets today's ever-present need to save time and labor.

Write for additional information.

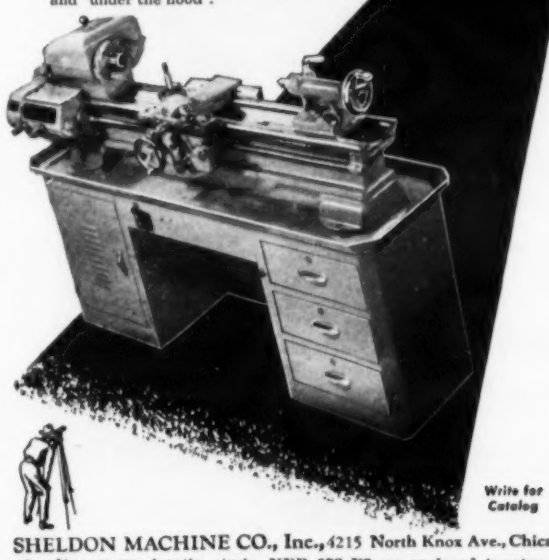
MORSE MANUFACTURING CO., INC.
756 West Manlius St. East Syracuse, N. Y.

For more details circle NED-672 F3 on enclosed inquiry slip

SHELDON CHICAGO

A better Lathe from any angle

Judge it from any angle: for accuracy, stamina, rigidity or capacity (for size). Check its component parts—its spindle, spindle bearings, lead screw, apron, carriage, bed, gearing, or the power delivered by its drive—you will find the SHELDON Lathe a quality tool both in appearance and "under the hood".

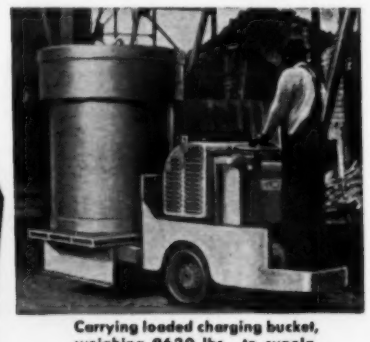


Write for Catalog

SHELDON MACHINE CO., Inc., 4215 North Knox Ave., Chicago 41, Ill.

For more details circle NED-673 F3 on enclosed inquiry slip

ELWELL-PARKER Trucks



Carrying loaded charging bucket, weighing 9620 lbs., to cupola.

Save 80 Man-Hours Daily!

When 2 Elwell-Parkers replaced hand trucks at a prominent southern foundry, they released 10 laborers for other duties. Operations previously hazardous are now done with ease and safety. After 18 months' steady service, carrying 450,000 lbs. per shift, the E-P trucks have required only minor repairs.

87 types of E-P industrial power trucks are serving 300 different industries.

FREE BULLETIN describes notable savings by E-P trucks. Write for copy of "Industrial Logistics", and name your product.

THE ELWELL-PARKER ELECTRIC COMPANY
4094 St. Clair Avenue • Cleveland 3, Ohio

For more details circle NED-671 F3 on enclosed inquiry slip

Here's your answer to . . .
Production HEAT TREATING of small parts

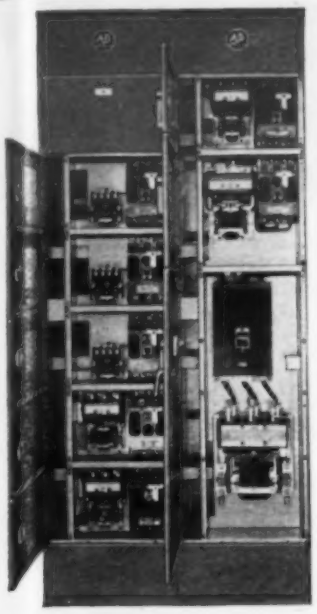
MANUFACTURERS FROM COAST TO COAST FIND HOFF CRAFTERS BASKETS BEST

Hoff Crafters Heat Treat Baskets are designed and built to "Take It."

There's practically no limit to the variety of heat treat baskets we produce—plain steel, stainless, Monel. Let us quote on your basket design—you'll like our price—or write for details and prices on available designs.

HOFFMAN COMPANY
41-43 N. PENN ST., YORK, PA.

For more details circle NED-674 F3 on enclosed inquiry slip



Bulletin 798 Multi-unit Control Centers for Centralized Operations

Bulletin 798 Multi-unit Control Centers can be assembled in one or more vertical sections containing starter panel units with disconnect switch or circuit breaker connected to a common power bus. The result is a completely enclosed, dead front, floor mounted switchboard, ready for connection to your motors in the plant.

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wisconsin

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

▲ For more details circle **NED-675 F3** on enclosed inquiry slip ▲

Are you paying too much for FILTRATION?

Our studies show that many companies are. And over-filtration is usually the cause.

For example, a micronic filter is highly desirable for certain purposes—but maybe you don't need such fine particle removal. Cuno's AUTO-KLEAN, the modern disc-type strainer, may do the same job and save you money in maintenance costs. (We make three types of filters and strainers—disc, micronic, and wire-wound—so we can give an impartial recommendation covering your needs.)

Find out whether you're getting your money's worth out of your filter. Let Cuno's free filter engineering service work for you.

Write now for our filtration analysis form, have one of your engineers fill it out, and mail it to us. We'll let you know exactly what you need—with no obligation on your part. Cuno Engineering Corp., Dept. 707A South Vine Street, Meriden, Connecticut.

CUNO ENGINEERED FILTRATION

▲ For more details circle **NED-676 F3** on enclosed inquiry slip ▲

save accidents
save money on the
safety level

. . . and enjoy the safety of the greatest feature ever built into a ladder—the Dayton "safety level" working platform. Check the "big 6" features that make a Dayton your best buy!

1. Rail guarded "safety level" platform.
2. Locks in place automatically.
3. Rubber safety shoes.
4. Light weight—great strength.
5. Economically priced.
6. Complete size range 3' to 16' in height.

Write Dept. E for Bulletin

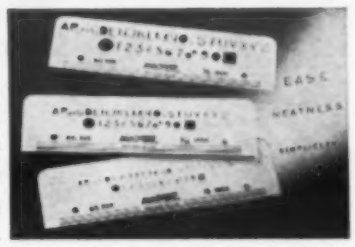
Dayton safety ladders

Dayton safety ladder co.
2339 Gilbert Ave., Cincinnati, O

In Canada:
Safety Supply Co., Toronto

▲ For more details circle **NED-677 F3** on enclosed inquiry slip ▲

LETTERING SET
saves drafting time, lends accuracy



Three individual lettering guides with letters of 1/8, 3/16, and 1/4-in. in modern type of a new design make up the No. 900 lettering set. The guides are made of 0.030-in. plastic, and are precision milled for smoothness of line, ease of operation and uniformity. Each of them measure 6 7/8 x 1 7/8-in., and they may be purchased either in the set at $4 or separately at $1.50. Made by **Rapidesign, Inc.**, P. O. Box 592A, Glendale, Calif.

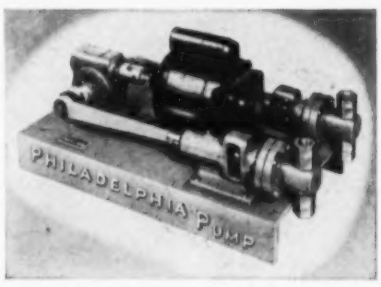
▲ For more details circle **NED-678 F3** on enclosed inquiry slip ▲

OFFICE FOLDING MACHINE
folds up to 100 letters per minute

Up to 100 letters can be double folded for the regular No. 10 envelope in less than one minute with the Fold-O-Matic desk model folding machine. The size of a typewriter, machine will also handle statements, invoices, circulars and other material measuring from 5 x 5 to 8 1/2 x 14 in. Machine is operated by hand, has green Hammerstone finish and weighs only 30 lb. Feature is the vertical creaser which eliminates need for two operations in order to accomplish a vertical fold. Made by **Print-O-Matic Co.**, Merchandise Mart, Chicago 54, Ill.

▲ For more details circle **NED-679 F3** on enclosed inquiry slip ▲

PROPORTIONING PUMP
controlled capacity, improved design



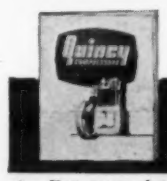
Controlled capacity proportioning pump is available with manual, pneumatic, hydraulic or electrical control of stroke length and incorporates several design improvements. It is constructed to allow removal of all moving parts through the crosshead without breaking piping connections. Packing gland is open at both ends, simplifying packing replacement and assuring even take-up on the packing. Special materials of construction of both the valve and pump body are available for particular applications and the pump can readily be used in single, dual, or multiple combinations. Made by **Philadelphia Pump & Machinery Co.**, 353 Wynnewood Ave., Wynnewood, Pa.

▲ For more details circle **NED-680 F3** on enclosed inquiry slip ▲

COMPRESSED AIR on the SPOT

IT'S EASIER . . . LESS COSTLY TO TAKE COMPRESSED AIR TO THE JOB WITH A PORTABLE Quincy COMPRESSOR

Compressed air goes anywhere — with a Quincy Portable Compressor. You can depend on Quincy to move the air supply right to the spot where it's required. Select the portable to meet your needs from a complete line of models. Four types of mountings, electric, motor or gas engine drive. Sizes 1 to 45 c.f.m. Structural steel frame for rugged service.



CATALOG AND PRICES For illustrations, specifications, features and prices write Quincy Compressor Co., Dept. NE-30, Quincy, Illinois

QUINCY COMPRESSOR CO.
QUINCY, ILLINOIS
Branch Offices: New York • Philadelphia • Detroit
Chicago • St. Louis • Dallas • San Francisco

▲ For more details circle **NED-681 F3** on enclosed inquiry slip ▲

SPEEDY AIR VISE

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings.....only **$36.00**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2647 N. Normandy Ave. • Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

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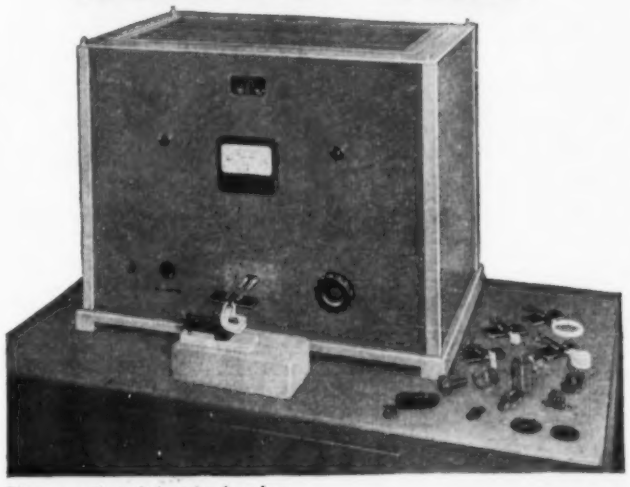
Lepel *presents*

A *Low Cost* PORTABLE HIGH FREQUENCY *Induction* HEATING UNIT



This versatile unit is priced so low that every shop may now take advantage of modern induction heating techniques to improve quality and to increase production. Its simplicity of operation eliminates the need for skilled personnel.

The Lepel Model 2 KW will meet the requirements of machine shops, toolrooms, research laboratories and educational institutions. It is especially suitable for hardening, brazing and soldering small parts of either ferrous or non-ferrous metals.

Complete unit with line connection and load coil **$870.** *f. o. b. factory*

- **SMALL AND COMPACT** Conveniently operated on bench or table—no mounting necessary.
- **ECONOMICAL OPERATION** No special power installation required. Operates on 110 volts, 60 or 50 cycle line at unity power factor.
- **FULLY GUARANTEED** Guaranteed for continuous duty cycle and stated performance.

WILL HEAT TO 1500° F.
1/8" steel rod 1" length in approx. 1 second
1/4" " " " " " 3 seconds
1/2" " " " " " 15 seconds
1" " " " " " 60 seconds
Will melt 4 ounces of brass or steel in 4 minutes.
Equally well suited for heating of non-ferrous metals.

All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

BRAZING

Permits widest choice of silver or copper brazing alloys from lowest to highest melting points. Ideal for brazing carbide tips.

HARDENING

Heat localized exactly where wanted at desired temperature. Ideal for gears, cams, bearing surfaces, cutting tools and other areas that are subject to wear.

SOLDERING

Speedily and neatly performs intricate soldering applications with or without the use of pre-formed rings.

ANNEALING

Ideal for annealing, stress-relieving, normalizing or preheating selected areas.

MELTING

Readily melts quantities of ferrous and non-ferrous metals in either graphite or ceramic crucibles.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

▲ For more details circle **NED-683 F3** on enclosed inquiry slip ▲

Hear Here!

Model 211 Floor Booth

Loudness Reduced 50%* Inside a BURGESS-MANNING ACOUSTI-BOOTH

In the hushed interior of this roomy, airy acousti-booth you hear easily while telephoning. Walls of thick, sound absorbing material, and patented construction reduce the loudness of noise by 50%.

When you invest in a Burgess-Manning Acousti-Booth you are purchasing better communications . . . good hearing means fewer errors.

** Based on studies by a prominent research organization.*

Write for Bulletin A-107

BURGESS-MANNING COMPANY

Architectural Products Division

5970-C Northwest Highway, Chicago 31, Illinois

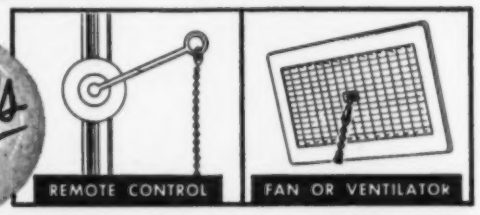
▲ For more details circle NED-684 F3 on enclosed inquiry slip ▲

DOES SO MANY THINGS ... *so much Better!*

Versatile BEAD CHAIN

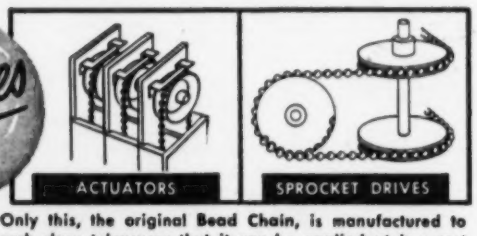
There are literally thousands of useful applications of BEAD CHAIN to all types of products, machines and tools! Consider how you may be able to take advantage of its versatility too! It pays dividends!

Pulls



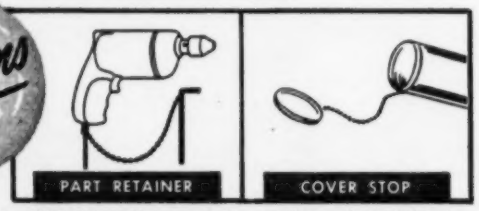
Bead Chain is available in 5 diameters from 3/32" to 3/8" with tensile strength ranging from 18 to 200 lbs. No matter what the requirement, our engineers can fill your need.

Drives



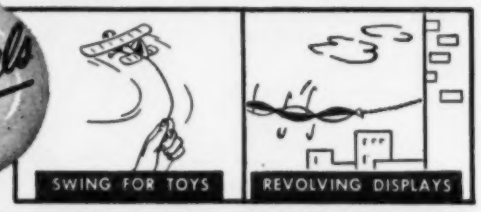
Only this, the original Bead Chain, is manufactured to such close tolerances that it can be applied at low cost to V-type or positive, non-slip sprockets. (Sprocket sources for your needs available on request.)

Fastens



Bead Chain's unique assembly service and special automatic equipment can supply chain cut to your requirements, complete with attachments, at a substantial saving.

it Swivels



A large variety of couplings and attachments offer endless opportunities to design engineers to adopt Bead Chain without the necessity of special tooling and production.

B®

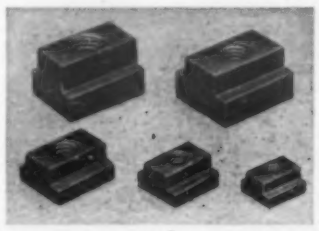
THE BEAD CHAIN MANUFACTURING CO.
BRIDGEPORT 5, CONN.
Send Me the Bead Chain Catalog.
NAME ..... TITLE .....
COMPANY .....
ADDRESS .....
KEY NO. 16

send for FREE HELPFUL CATALOG

THE BEAD CHAIN MANUFACTURING CO., BRIDGEPORT 5, CONN.
Original and World's Largest Producer of Bead Chain

▲ For more details circle NED-685 F3 on enclosed inquiry slip ▲

T-NUTS
mass-produced in 15 sizes



Throat sizes in this line of T-nuts range from 7/16 to 1⅛-in., so that almost any machine table slot size can be fitted with a standard part from stock. All sizes are accurately machined of heat treated alloy steel with 200,000 psi tensile strength. Made by **Jergens Tool Specialty Co.,** Dept. NED, 712 E. 163rd St., Cleveland, O.

▲ For more details circle NED-686 F3 on enclosed inquiry slip ▲

PHOTO-OFFSET UNIT
makes halftone reproducing plates

Introduction of the 106 photo-offset plate exposure unit makes it possible for the offset duplicator owner to make halftone picture reproducing plates in his office in a few minutes. Part of a film negative can be exposed without cutting or remasking. If required, pressure between negative and plate can be increased with a simple adjustment. Made by **A. B. Dick Co.,** Dept. NEW, 5700 W. Touhy Ave., Chicago 31, Ill.

▲ For more details circle NED-687 F3 on enclosed inquiry slip ▲

MAN-COOLING FAN
large oscillating unit

Featuring an oscillating motion, this power-driven man-cooling fan has a fabricated steel propeller mounted on the shaft of a totally-enclosed ball bearing motor. Most common size has a 36-in. propeller with a 1 hp, 1200 rpm motor. Oscillating mechanism is driven by a gearhead motor mounted on the fan pedestal. It oscillates about 10 times per minute through an arc of 60 degrees. Fan assembly can be floor mounted or suspended in an inverted position. Photo shows fan with inlet guard removed. Made by **Robinson Ventilating Co.,** 1953 Railroad St., Zelienople, Pa.

▲ For more details circle NED-688 F3 on enclosed inquiry slip ▲

NOELTING Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

300 Series Double Ball Bearing Swivel Plate Caster with Steel Wheel

NEW! DRAWN STEEL WHEELS FOR LONGER WEAR

Faultless Casters equipped with the new Drawn Steel Wheels provide (1) *longer life,* (2) *greater efficiency,* (3) *at minimum maintenance* and, thus, (4) *lower operating cost per mile.*

Faultless Steel Wheel Casters help industry reduce overhead by maintaining fast, fluid production lines. These precision-made wheels are machined to tolerances typical of fine tools and like any quality equipment, are the best investment for long uninterrupted service. Write for Bulletin

FAULTLESS CASTER CORPORATION
Dept.NE-9, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

▲ For more details circle NED-689 F3 on enclosed inquiry slip ▲

Only the New TYPE "R" MORRIS SLURRY PUMP *has these 4 features*

1. Gland is under suction pressure only. This feature practically eliminates packing troubles.
2. For dismantling, you need remove only four bolts. No internal studs or bolts . . . no troublesome fits or joints.
3. You can remove impeller and liner without disturbing piping.
4. Shell interchangeable for right or left-hand rotation. Suction and discharge nozzles can be rotated to positions in any of four quadrants.

The New Type "R" Morris Slurry Pump handles caustic or acid mixtures containing abrasives or solids; also ore concentrates, tailings, slag, residue from filters and classifiers.

Write for specifications and operation data on pumps best suited to your particular needs. No charge or obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Sales Offices in Principal Cities

MORRIS CENTRIFUGAL PUMPS

▲ For more details circle NED-690 F3 on enclosed inquiry slip ▲

THAT'S ALL

WORLD'S SIMPLEST BIN LEVEL INDICATOR

BIN-DICATOR

NO MOTORS • NO SPRINGS • NO OILING

This is the first simple, dependable, low-cost automatic bin level indicator. Units installed 20 years ago are still in daily use. Watches *and reports* material levels in bins, silos, hoppers, chutes, etc.; automatically starts, stops filling machinery. Free catalog. Write—

THE BIN-DICATOR CO.

13946-A Kercheval Avenue • Detroit 15, Michigan

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IN WIRE-MESH PRODUCTS LET JELLIFF DO IT!

For 70 years we've been weaving Wire Mesh. And a good part of that time we have also been making things of Wire Mesh for people who find it is cheaper, easier and generally more satisfactory to "let Jelliff do it."

From big Dipping Baskets to tiny precision filters — from fuel strainers to what-is-it gadgets — JELLIFF's Custom Production Department turns out fabricated Wire-Mesh products at speed, price and precision that mean lower costs and a stronger competitive position for our many customers.

If you buy or make wire-mesh assemblies as components of your own products and have not yet had an estimate from Jelliff, write today for details. No obligation, even if you enclose a blueprint for us to figure on. Address Department 11.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS
LEKTROMESH
RESISTANCE WIRE
SOUTHPORT
WIRE PRODUCTS Jelliff SINCE 1860
WIRE MESH PARTS
WIRE CLOTH
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MANOMETERS

for every purpose—a mounting for every installation

- Well Type
  Single and Multiple Tube
- U Tube
- Absolute Pressure
- Micro Manometers
- Inclined Manometer
- Draft Gauges
- Indicating Flow Meters
- Liquid Level Gauges
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Write for New Illustrated Bulletin L

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• ACCURATE
• EASY READING

Trimount INSTRUMENT CO.
3119 WEST LAKE STREET • CHICAGO 12, ILLINOIS

For more details circle NED-693 F3 on enclosed inquiry slip

FOR ALL INDUSTRIAL, TECHNICAL, AND COMMERCIAL USES

Pannier MARKING INKS

• You get the exact ink you need for clear, sharp, readable marking when you use the Pannier "Master Marker" line. For there's a Pannier Ink to mark nearly any kind of surface under almost any service condition. The wide range of properties of this complete line includes drying under oil; heat resistance; solubility in water and other fluids; permanency; etching or non-etching; and many others. Our laboratory will gladly recommend the right ink and method of application — even work with you in developing a special ink to meet unusual requirements. Just tell us your marking problem.

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THE PANNIER CORPORATION
301 Pannier Building,
Pittsburgh 12, Pa.

EXPORT DEPARTMENT BESSEMER BUILDING PITTSBURGH, PA.

For more details circle NED-694 F3 on enclosed inquiry slip

new Baker gas-O-matic FORK TRUCK

Revolutionary gas-powered Fork Truck with built-in generator and electric drive.

SMOOTHER ACCELERATION! BETTER "INCHING"! LOW INITIAL COST! LESS MAINTENANCE!

GAS-O-MATIC has no clutch or gear shift, and no electric controller, thus eliminating "step-ladder" acceleration and maintenance headaches. Greatest fuel economy of any gas truck!

The Material Handling Sensation of 1953!

write for Complete Information
THE BAKER-RAULANG COMPANY
1245 W. 80th STREET • CLEVELAND 2, OHIO

Baker industrial trucks

BAKER-LULL Corp., *Subsidiary*, Minneapolis, Minn.
Material Handling and Construction Equipment

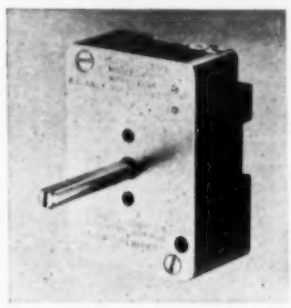
For more details circle NED-695 F3 on enclosed inquiry slip

SELF-SEALING RIVETS give full-strength leak-proof joints

Production and maintenance fastening of aircraft and industrial structures where losses of fluids or pressures are critical is possible with self-sealing Fluid-Tight rivets. They are modified close-tolerance standard flush-head AN 426 or round-head AN 430 aluminum and are available in a variety of sizes. They will replace standard AD rivets without loss of efficiency. Installation is with conventional tools and methods. Made by **Pastushin Industries, Inc.**, Dept. T, 501 Prarie Ave., Hawthorne, Calif.

For more details circle NED-696 F3 on enclosed inquiry slip

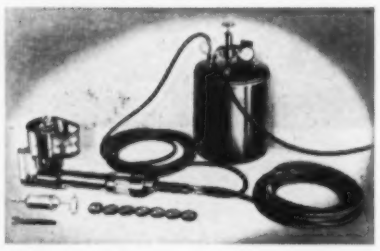
TEMPERATURE CONTROL SWITCH for electric heating elements



Infinite control of heating element temperatures is provided by models 510 and 520 control switches which are rated 1250 and 2100 w, respectively. Well suited for cooking ranges, switches are also adaptable for other heating element control purposes. Switch is housed in heat resistant Bakelite, with metal cover. It incorporates a bimetal timer assembly operating on one line and a disconnect switch on other line. Provision is made for pilot circuit. Made by **Proctor Electric Co.**, 300 Hunting Park Ave., Philadelphia 40, Pa.

For more details circle NED-697 F3 on enclosed inquiry slip

HIGH SPEED JOINT CLEANER for pipe ends and threads



Designed to speed reconditioning ends of old or reclaimed well pipe or pipe lines, this air-powered end cleaner combines solvent with a guided rotary brushing action, and has a capacity for 2 to 10-in. diameter pipe. A 2-in. rotating brush is driven around the inside or outside diameter of the pipe by a rotating head working on the other diameter, the pipe being "sandwiched" between the two elements under spring pressure. The unit is portable, and weighs 16 lb. Made by **Airetool Mfg. Co.**, 308 S. Center St., Springfield, O.

For more details circle NED-698 F3 on enclosed inquiry slip

One way to identify a good bronze valve is by looking for pressure markings on the valve body. Pounds of pressure and the type of service -- working steam pressure (WSP), water, oil or gas (WOG) -- are cast right on the valve. That's the manufacturer's promise that the valve will serve efficiently when installed. You'll find pressure markings on all O-B valves.

OHIO BRASS COMPANY MANSFIELD OHIO

Ohio Brass VALVES
MANSFIELD, OHIO

For more details circle NED-699 F3 on enclosed inquiry slip

1 man handles Sheet Steel Faster, Easier with a C-F LIFTER

C-F Lifters, under one man operation, pick up, carry and unload more sheet steel tonnage per hour than any other method – and at lower cost per ton. Wide carrying angles hold sheets securely – won't damage high grade sheets; tong action insures safe carrying; fast opening and closing adjustments of Lifter jaws permit shifting from one size pack to another in seconds. C-F Lifters are made in standard or semi-special models to handle from 2 to 60 tons.

Write for Bulletin SL-28 for specific examples of C-F Lifter operation and economy.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

For more details circle NED-700 F3 on enclosed inquiry slip

TO *Guarantee Quality* BEYOND QUESTION

RAYTHEON STANDARD CONTROL KNOBS

So that you may specify them with confidence for the finest electronic and electrical equipment, Raytheon Standard Control Knobs must pass these quality control tests:

HUMIDITY—48 hours of 95% relative humidity at 65° C.

SALT SPRAY — 50 hour fog test in accordance with Specification QQ-M-151.

VIBRATION—tested in 3 planes from 10 CPS to 33 CPS at an amplitude of .072" for 3 minutes each way in accordance with Specification 40T9.

IMPACT—blows of 400, 800 and 1200 foot pounds through each of 3 axes in accordance with Specification 40T9.

HIGH TEMPERATURE — 4 hours at 85° C combined with torque test.

TORQUE — 25 to 50 pound-inches applied in one direction, then opposite while under high temperature test.

ROTATION — crank knobs rotated 200,000 times with 1½ pound load applied intermittently to handle during each rotation.

EXTREME TEMPERATURE—knobs subjected for 2 hours to 95% relative humidity at plus 65° C, then minus 40° C for 2¼ hours then quickly back to room temperature.

RAYTHEON STANDARD CONTROL KNOBS are made in five basic sizes and six functional styles of tough, durable "Tenite II" (cellulose acetate butyrate), injection molded with anodized aluminum inserts and dual setscrews. Black knobs available in "matte" or "mirror" finish.

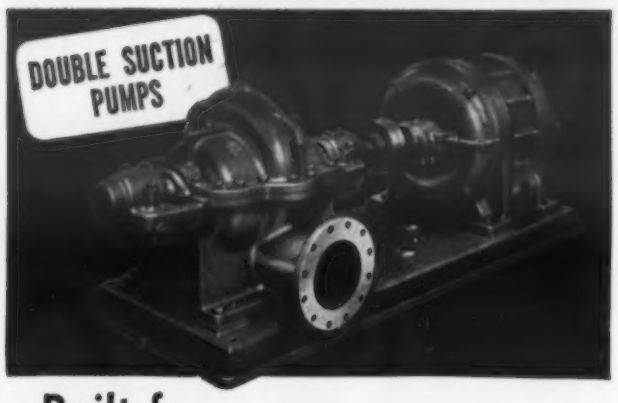
Write for complete information

RAYTHEON MANUFACTURING COMPANY
EQUIPMENT SALES DIVISION
DEPT. 6270-KNE WALTHAM 54, MASSACHUSETTS

DISTRICT OFFICES: BOSTON, NEW YORK, CLEVELAND, CHICAGO, NEW ORLEANS, LOS ANGELES (WILMINGTON), SAN FRANCISCO, SEATTLE
INTERNATIONAL DIVISION: 19 RECTOR ST., NEW YORK CITY

RAYTHEON PRODUCTS INCLUDE: WELDPOWER* welders; Voltage stabilizers (regulators); Transformers; Sonic oscillators for laboratory research; Standard control knobs; Electronic calculators and computers; Radio, television, subminiature and special purpose tubes; and other electronic equipment. *Reg. U. S. Pat. Off.

For more details circle NED-701 F3 on enclosed inquiry slip



Built for LOW MAINTENANCE

GENEROUS CONSTRUCTION with extra metal thicknesses, extra strong parts, extra construction features and extra careful workmanship means lower pumping costs for you. Every pump tested on most modern equipment in industry. Each installation individually engineered.

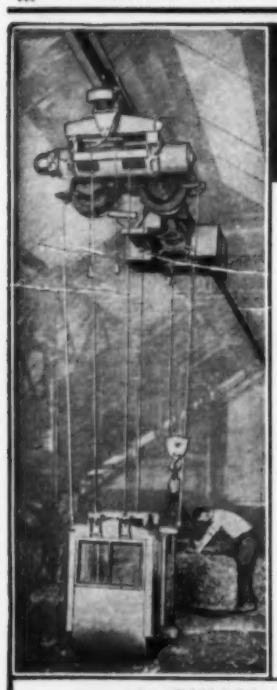
Horizontally split casing, ball bearings, balanced impeller, wearing rings, hand finished water passages, cast shaft sleeves, generous stuffing box length. Choice of iron, bronze, stainless steel.

Standard sizes from 10 to 7000 gpm with 475 foot head. Larger sizes available. For complete information, call your Allis-Chalmers Office, or write Allis-Chalmers, Milwaukee 1, Wisconsin for bulletin 08B6146.

A-3320

ALLIS-CHALMERS

For more details circle NED-702 F3 on enclosed inquiry slip



RAISE-LOWER CAB CARRIER

Cuts Handling Costs ½ to ⅔

- Permits one man to handle all operations when moving materials with a cab-controlled overhead system. Operator lowers cab to floor or top of materials when attaching or detaching load on hook. No floor men needed. Carrier will not travel until cab is in high position. All motions motorized.

BULLETIN 2006-A sent free on request. Gives complete details.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6618 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

For more details circle NED-703 F3 on enclosed inquiry slip

Get these facts!

ON QUICK, EASY PRODUCTION OF NYLON MAINTENANCE PARTS FROM POLYPENCO® NYLON ROD . . . STRIP . . . TUBING

These bulletins give full information on POLYPENCO nylon standard shapes. Cite examples of how to get *all* the advantages of nylon for maintenance parts by fabricating from standard shapes.

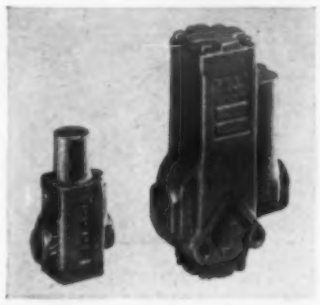
- Standard shapes (rod, strip, tubing)
- Formulation and characteristics
- Available sizes and length
- Recommended machining practice

CLIP AND MAIL COUPON NOW!

Polymer Corporation of Penna., Reading, Penna.
Please send full technical and fabricating data ☐
rod, strip and tubing prices ☐
NAME.....TITLE.....
COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....
(Please print)

For more details circle NED-704 F3 on enclosed inquiry slip

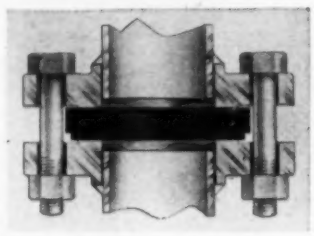
HYDRAULIC FLOW VALVE for fork and straddle trucks



Designed for fork and straddle trucks, the automatic and self-regulating BHEW flow valve controls the lowering speed of a load in inverse proportion to the load weight. Sizes available are applicable to 2000 to 30,000-lb fork trucks and straddle trucks rated up to 45,000 lb. Important feature is that when a load is near the truck's rated capacity the surge at the start of lowering is eliminated. Lowering speed for empty hooks or raising is not restricted. Made by **Benton Harbor Engineering Works,** 404 Eighth St., Benton Harbor, Mich.

For more details circle NED-705 F3 on enclosed inquiry slip

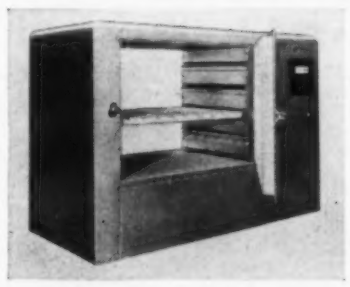
ALIGNING GASKETS give positive mechanical flange seal



Requiring no maintenance, Vic-O-Seal metal aligning flange gaskets prevent leakage due to misalignment and can be used for all fluids, gases or air. They give a positive seal at 7000 psi with a pipe misalignment up to 6 degrees, and can be used with all standard fittings. Available with O-ring seal or metal-to-metal fit in different metals from **Vickers Inc.,** 2150 E. Imperial Highway, El Segundo, Calif.

For more details circle NED-706 F3 on enclosed inquiry slip

RECIRCULATING OVEN has adjustable electric heat



Model DRF-30 electric recirculating oven with a 24 x 30 x 24-in. chamber is heated by a bank of thin strip heaters located in the housing around the insulated chamber. Built-in four-bladed fan powered by ¼-hp motor uniformly distributes heat in the work area. Heat is adjustable by louvers. Oven operates at temperatures from 0 to 550° F and where desirable, outside air can be injected into the circulating system. Unit is wired so that heaters cannot be turned on unless the blower is operating. Made by **Pereny Equipment Co.,** Chambers & Pereco Rds., Columbus 12, O.

For more details circle NED-707 F3 on enclosed inquiry slip

change from cord to **Cordomatic** TROUBLE LIGHT REELS

* Reg. U.S. Pat. Off.

GIVES YOU LIGHT WHEN YOU WANT IT— WHERE YOU WANT IT!

$9.95
FOR 20' EXTENSION MODELS
25' MODELS—$14.95
40' MODELS—$19.95

√ MODERN √ EFFICIENT √ ECONOMICAL

No more tangling in a clumsy wire "booby trap" that's always in your way, causing short tempers and painful accidents! Save time, trouble and money the Cordomatic way. Cordomatic works like a window shade—just pull out the length of cord you need, and it locks in place automatically! A flick of the wrist, and z-z-zip, it rewinds itself. One Cordomatic Trouble Light Reel will outlast many ordinary drop cords.

Available Through Your Local Automotive Jobber

No installation costs. Just hang up, plug in!

Foolproof "Gravity Action" Recoil Mechanism . . . locks at any desired length!

U/L Approved #18-2 S.V.O. Neoprene jacketed, kink-proof cord! Oil and water resistant.

New "Stubby" Handle! 100% Neoprene with protector ears.

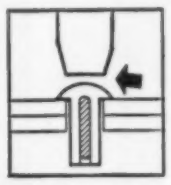
New type "swing open" guard.

Unconditionally guaranteed for one year!

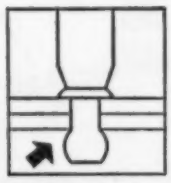
Cordomatic DIVISION OF THE VACUUM CLEANER CORP. OF AMERICA
PLANT NO. 2: CROSKEY ST. & INDIANA AVE.
PHILADELPHIA 32, PENNA.

For more details circle NED-708 F3 on enclosed inquiry slip

You speed and simplify dozens of fastening jobs with DU PONT EXPLOSIVE RIVETS



1. Touch head of Explosive Rivet with heated Du Pont Riveting Iron. (Note tiny explosive charge in Rivet shank.)



2. Almost instantly . . . charge expands, forming a barrel-shaped head on shop end of Rivet that sets it in place.

You're sure of quick, easy fastening on a variety of fabricating jobs with Du Pont Industrial Explosive Rivets! 20 to 25 of these Rivets can be set a minute in tough or easy fastening, speeding the work on such intricate assemblies as ice machinery—electronic or communications equipment—switch gear—and many others. And Explosive Rivets make it a smooth, one-man job . . . no bucking bar needed. Send for manual showing how Explosive Rivets enable you to do many different fastening jobs swiftly and simply. *Contact nearest* Du Pont Refinish Service Warehouse, or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., Wilmington 98, Delaware.

DU PONT *Hi-Speed* INDUSTRIAL EXPLOSIVE RIVETS

A Product of Du Pont Explosives Research

DU PONT — Better Things for Better Living . . . through Chemistry

For more details circle NED-709 F3 on enclosed inquiry slip

Handle Heavy-duty Jobs Faster Safer Easier

Model 50.12AA
50 Ton Capacity

with a **HEIN-WERNER** HYDRAULIC JACK

This compact Hein-Werner Jack is ideal for moving heavy machinery, pulling gears and pinions, bending pipe, as the power unit for presses, or countless other industrial applications. No crews or helpers are needed. Confusion and wasted man-hours are avoided. Sturdy handles simplify carrying and positioning . . . fall flush against jack housing when not in use.

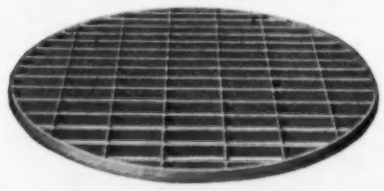
Complete line includes models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity. See your industrial supply distributor or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION • WAUKESHA, WIS.

For more details circle NED-710 F3 on enclosed inquiry slip

REMOVE THE DANGER OF OPEN AREAS



Here's the Solution!

Blaw-Knox Electroforged Steel Grating is the ideal "coverage" for unprotected pits, light wells, basement stairways and other hazardous open areas. It is a one-piece steel "material" that provides safe footing under any conditions, and admits the maximum of light and air. *Strong . . . Silent . . . Secure.* Thousands of installations are still on the job after 20 years of traffic!

Send us dimensional sketch
We will then forward you price on grating cut to exact size. No nuts, no bolts, no special tools required. Don't delay . . . write today and make those danger spots both safe and usable!

BLAW-KNOX COMPANY
Grating Department
BLAW-KNOX EQUIPMENT DIVISION
2068 Farmers Bank Bldg.
Pittsburgh 22, Pa.

ELECTROFORGED® STEEL

BLAW-KNOX GRATING

For more details circle NED-711 F3 on enclosed inquiry slip

YOU GET 10 BIG ADVANTAGES WITH CHROMALOX Electric RADIANT HEATERS

1. IT'S COLOR BLIND FAR INFRARED
2. UNIFORM HEAT—NO HOT SPOTS
3. BUILT TO TAKE A BEATING
4. HIGH INTENSITY RADIATION
5. QUICK WARM UP
6. UNIQUE 0-100% ADJUSTABLE HEAT OUTPUT
7. ADDED SAFETY WITH VOLATILES
8. FOCUSSED RADIATION
9. EASY OVEN BUILDING
10. SPACE SAVING

Want to know more about this
FLEXIBLE HEAT SOURCE?
Send for Bulletin CS-604. It shows you why and how Chromalox Radiant Heaters do a better job of baking, drying, curing, etc.

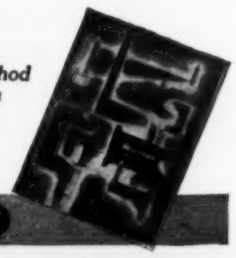
Industrial Radiant Heating Division
EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.
See other ad on pg. 4
CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-712 F3 on enclosed inquiry slip

DON'T KILL YOUR CHANCES for lower assembly costs!!

Before you tie up funds in costly tools and dies, have Milford fastener-engineers analyze your product assembly need . . . at the design stage, while plans are still flexible. It will save you money and headaches, reduce production expense, speed up assembly time, and aid you in making a better product . . . perhaps at a competitive price advantage! You can put these savings in your pocket by sending drawings and detailed description of your product fastening problem for Milford's scientific solution.

Write for your copy of the "Milford Method for solving industry's fastening problems".



EST. 1919
MILFORD
the name to rivet in your memory for fasteners

THE MILFORD RIVET & MACHINE CO.
929 Bridgeport Avenue, Milford, Conn.
878 Illinois Ave., Aurora, Ill.
1158 W. River St., Elyria, Ohio
78 Platt Street, Hatboro, Penna.
753 So. Palm Ave., Alhambra, Calif.

For more details circle NED-713 F3 on enclosed inquiry slip

OVERLOAD RELEASE CLUTCH
sprocket, chain, gear and belt drives

Universally applicable overload release clutch is fitted with an instantaneous trigger action and is designed to allow machines to resume operation at the exact cycle point of release. The clutch is dust and dirt proof and features permanent lubrication. Standard models cover a wide speed and shaft size range, however, special sizes can be ordered to specifications. Made by **Overload Release Clutch Co.**, Dept. E, 1162 Stuyvesant Ave., Irvington, N. J.

For more details circle NED-714 F3 on enclosed inquiry slip

HYDRAULIC RELIEF VALVE
is small in size and lightweight

Maximum flow capacity of this safety relief valve is 10 gpm and it is normally furnished set for 1000 psi. However, it can be adjusted down to 800 psi or up to 1200 psi, and furnished set within these limits. It has ¾-in. male pipe threads on both ends and its external dimensions are the same as those of a ¾-in. pipe nipple 3 in. long. The valve is not intended for use as a dumping unit. Made by **Simonsen Mfg. Co.**, Quimby, Iowa.

For more details circle NED-715 F3 on enclosed inquiry slip

WET GRINDER FOR CARBIDE
fully equipped for average shop

Complete wet grinding equipment is fitted to this model AW carbide grinder, including separate motor driven coolant pump, pan, settling tank, piping, valves, nozzles and spray guards. It delivers a copious flow of coolant direct to the grinding point. All regular tool grinder features are incorporated. The new machine is furnished as standard with ½-hp motor for 110-v, 60-cycle, single phase, or 220/240-v, 60-cycle, three-phase current. Made by **Thomas Prosser & Son**, 64 South St., New York 5, N. Y.

For more details circle NED-716 F3 on enclosed inquiry slip

test metal hardness.

directly on any size job!

Accuracy guaranteed by individual calibration of each instrument. Direct dial readings . . . no calculations or conversion charts. Available in Rockwell "A", "B", "C", "15N" and Brinell Scales. Tests any size, shape, type metal, on-the-job!

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Territories open! Distributors inquire!

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portable metal hardness testers
Manufactured in the United States
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IN CANADA: NEWAGE (CANADA) LIMITED, 1176 BAY STREET, TORONTO, ONTARIO

For more details circle NED-717 F3 on enclosed inquiry slip

Now Better * than ever

FLEX-A-FOAM FILTER MASKS

For Safe, Economical Dust Protection

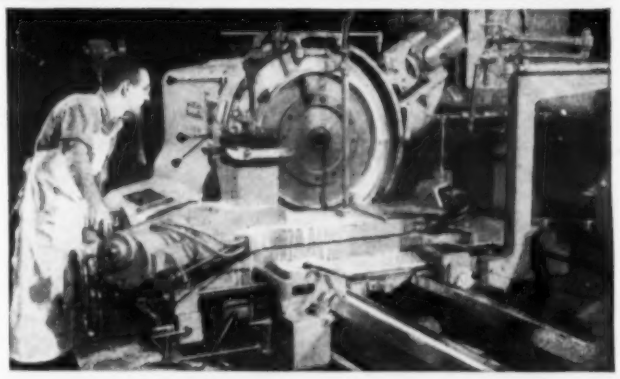
NEWLY designed for better-than-ever comfort and efficiency. It's easier to breathe through and talk through than an ordinary pocket handkerchief — yet filters nuisance dust particles as small as 1/25000 of an inch!
• Economical — Only Flex-a-Foam has long-lasting washable filter that outlasts throw-away type by more than 100 to 1. Filter savings alone more than pay total cost of mask.
• Comfortable — Self-adjusting to every face size. Can be worn with goggles or spectacles.
• Simple — Only four sturdy, long-lasting parts — all interlocking — all unconditionally guaranteed.

* *New frame design positively locks out air leaks, permits speedy removal of filter for cleaning.*

Dust Protection your workers will welcome and *Wear*

FLEX-A-FOAM® FILTER MASK
SAMPLE STILL ONLY $1.40 POSTPAID
THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

For more details circle NED-718 F3 on enclosed inquiry slip



Maintain good lighting and reduce spoilage by holding proper voltage with G-E Inductrols
(dry-type induction voltage regulators)

Your plant lighting operates best at rated voltage. If, for example, voltage on incandescent lamps drops 10% below normal, lamp brilliance decreases 30%—and workmanship suffers. If voltage rises 10% above normal, lamp life decreases 70% and replacement costs go up. And where fluorescent and mercury vapor lamps are used, similar adverse effects occur.

That's why it pays to install G-E Inductrols. These new dry-type voltage regulators *automatically* maintain correct voltage for your plant lighting and other electric equipment, thus assuring peak operating efficiency.

For more information on Inductrols, contact your local G-E sales representative or authorized agent. Write for Bulletins GEA-5824, GEC-795, and GET-2351. *General Electric Company, Schenectady 5, New York.* 404-92

G-E Inductrols are ideal for light-dimming applications.

GENERAL ELECTRIC

For more details circle NED-719 F3 on enclosed inquiry slip

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THE EASIEST AND MOST ECONOMICAL LABEL YOU CAN USE!

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SAVE YOU TIME - MONEY!
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☐ Have the local Avery man call

Name
Title
Company
Address

For more details circle NED-720 F3 on enclosed inquiry slip

Combines high efficiency and smart styling with unique maintenance ease and economy. When detached, louver assembly is automatically suspended below channel by supporting chains — allows quick, easy access to operating equipment — 2 lamp and 4 lamp units for both single pin and bi-pin lamps!

Write for special FLO-LINER bulletin

Wheeler REFLECTOR COMPANY
275 CONGRESS STREET — BOSTON 10, MASS.
Distributed Exclusively Through Electrical Wholesalers

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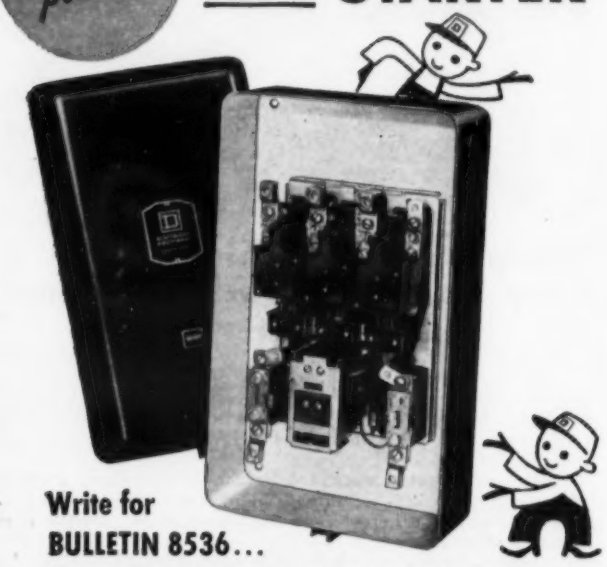
Feature-packed!

New SQUARE D SIZE 4 STARTER



Write for BULLETIN 8536...

Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

▲ For more details circle NED-722 F3 on enclosed inquiry slip ▲

Quick Acting Couplers

put Air at your fingertips

Plug in compressed air as you would electricity with **Schrader Quick Acting Couplers.** Spot couplers along walls, benches or columns to put air just where it's needed. Plug in your air tools close to the work.

A simple push locks air line in place, automatically starts air flowing. A swivel action prevents hose kinking. Line cannot be accidentally uncoupled—it requires a definite man-made twist on the sleeve. Uncoupling automatically shuts off air.

Available in many sizes, both for standard and heavy duty work, Schrader Quick Acting Couplers make air one of your most useful tools. You'll find full details in the Schrader catalog. Send for it today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Ave., Brooklyn 38, N. Y. DEPT. E-35

▲ For more details circle NED-723 F3 on enclosed inquiry slip ▲

TIME RECORDING LOCK
discourages opening after hours

A unified combination time recorder and door lock, this tamperproof Silent Watchman will deter key carrying employees from opening up after hours or on holidays since each re-entry is recorded. Thus, watchmen are not tempted to leave plant or to open door to admit unauthorized persons. Device is completely mechanical, and by arranging to have other entrances locked from inside, cannot be circumvented. Made by **Silent Watchman Corp.,** 19D S. Wells St., Chicago 6, Ill.

▲ For more details circle NED-724 F3 on enclosed inquiry slip ▲

PICK-UP TWEEZER
made of stainless steel

Odd-shaped or hot objects and sterile or highly polished items can be picked up and held by this automatic pick-up tweezer. Made of stainless steel, it has three hooked spring steel fingers which flare out when the tool's top plunger is depressed. Releasing the plunger causes the fingers to withdraw and close together to hold the object. Available from **Win Sales Co.,** Dept. 8-C, P. O. Box 257, Forest Hills, N. Y.

▲ For more details circle NED-725 F3 on enclosed inquiry slip ▲

CARBON SOLDERING HANDPIECE
feather-weight units for fine work

Now available for Glo-Melt resistance soldering unit, the Pencil Handpiece is a feather-light accessory for conduction or resistance soldering. Handpiece weighs only ½-oz and measures 5 in. long by ⅜-in. diameter. Model A holds ⅛-in. carbon tips and model B takes a 3/16-in. tip. Both are designed for instant conduction soldering by establishing a ground circuit through Glo-Melt grounding clip and lead, or with special mating plugs, sockets or fixtures used in modern plants. They are suited to fine work where sensitive and precise control is required. Made by **Wasserlein Mfg. Co.,** 128 W. Cass St., Joliet, Ill.

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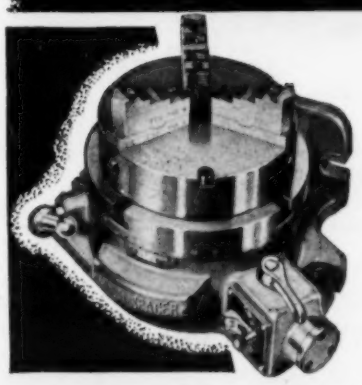
New Indexing Fixture with Built-in Selector



THE NEW GORTON Multi-Spacer

A time-saver for all types of milling, drilling, boring and grinding operations. Eliminates extra job set-ups. Features built-in automatic selector; permanent index discs; no loose parts — no discs to change; 9" dia. table; sealed mechanism; vertical or horizontal set-up; milled base for ½", ⅝" or 11/16" keys. Available with seven positions . . . 2, 3, 4, 6, 8, 12 and 24 divisions.

FREE BULLETIN!

For detailed information on the Multi-Spacer and numerous other Gorton Time-saving Machine Tool Accessories write today for Free Bulletin No. 1317.

GEORGE GORTON MACHINE CO.
1906 RACINE ST., RACINE, WISCONSIN

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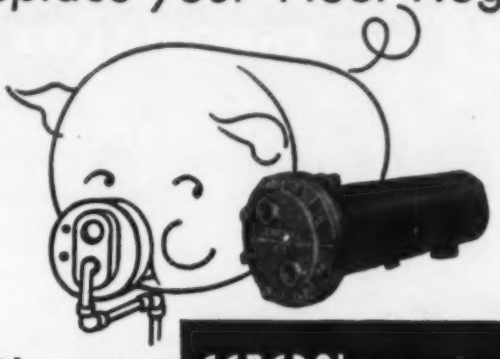
Replace your "Floor-Hog"...



with a compact GENERAL Instantaneous Water Heater

Here's a dependable, continuous water heating unit you can install in a fraction of the space required by storage tanks. You can even install it overhead.

GENERAL Instantaneous Heaters cost less . . . less to buy, install, and maintain. Just tap into live or exhaust steam lines . . . no excavating, no complicated piping. Rust-free, piping-hot water delivered through seamless copper tubing . . . outlives other systems.

20 sizes—largest, only 21" x 84", delivers 300 gpm. Investigate *all* the advantages of GENERAL Instantaneous Heaters. Write: General Fittings Co., Dept. J, 123 Gerogia Ave., Providence 5, R. I.

GENERAL GF
TANKLESS AND INDIRECT WATER HEATERS AND HEATING SPECIALTIES

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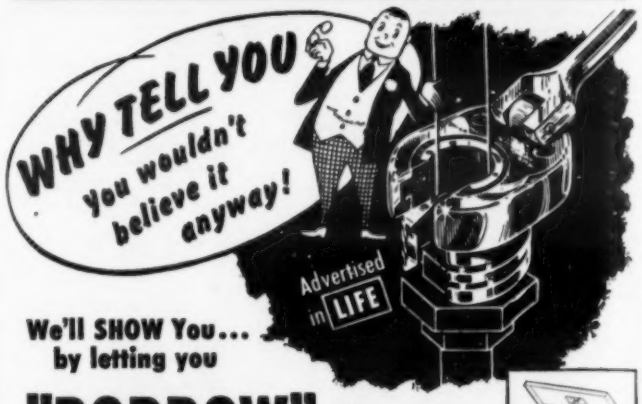

We'll SHOW You... by letting you "BORROW" the new TAC OPEN END RATCHET WRENCH

"OLD HAND" production line and maintenance men often simply can't believe their eyes when watching TAC in action. Slashes wrenching time to a mere fraction—because open end ratcheting head works like a human hand . . . slips around tubing and down on fitting . . . then ratchets "on" or "off" in seconds. Designed for wrenching in close quarters; can often save hours of tearing down to gain access for conventional tools.

So, "BORROW" a wrench; try it as you will—prove its value. Send request on company letterhead—we ship on memo billing—returnable for full credit. ACT NOW! KNOW THE FACTS!

TAC
Send for New Catalog
TUBING APPLIANCE COMPANY
10321 Anza Avenue, Los Angeles 45, Calif. Dept. 15

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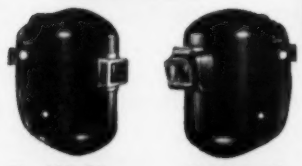
CESCO RIGHT... before your Eyes!

NEW!



No. 401-7F with Stationary Lens Holder — No. 401-2F with Lift-Front Lens Holder

FIBER GLASS WELDING HELMETS

• Not affected by heat or moisture. Won't warp or buckle. Moulded under great pressure into a strong, tough one-piece shell with high heat insulating qualities.

CESCO Fiber Glass Welding Helmets are light in weight, have formfitting headgear, easily adjusted leather sweatband. They're—*"Right... before your Eyes."*

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CHICAGO EYE SHIELD COMPANY • 2322 Warren Blvd. • Chicago 12, Ill.

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- Meets ICC-1-F specifications.
- Unbreakable, even at sub-zero temperatures.
- Lower shipping costs; simplifies handling.

Plaxpak polyethylene carboys are blow-molded in one piece and are inert to most chemicals. Unbreakable and light in weight, they simplify handling, shipping and storage of acids and other chemicals.

Write for complete details.

PLAX CORPORATION
Subsidiary of Emhart Mfg. Co.
WEST HARTFORD, CONNECTICUT
District Sales Offices: New York, Philadelphia, Chicago and other principal cities.
In Canada: Plax Canada, Limited, Toronto

PLAX — NOT SUBSTITUTES · IMPROVEMENTS

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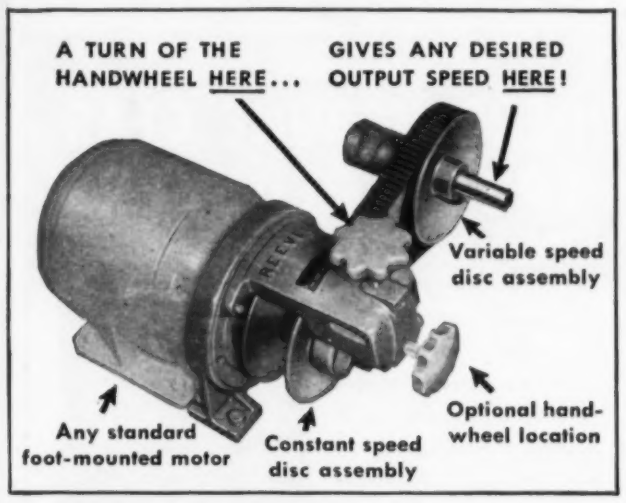
NEW! REEVES Flexi-Speed Drive



Mounts in any position . . . drives in any direction . . . gives any speed within 8:1 range . . . available in ½, ¾ and 1 hp. *Low Price!* Write today for details to Dept. NED91a-V532.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

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NOW A WIDE RANGE OF AIR PRESSES

Cut Costs...

These presses deliver from 4 to 28 times the air line pressure, cost from $27.50 to $135.00, and will pay for themselves many times over in faster, more uniform production on light staking, crimping, assembling jobs. Write for new catalog of air cylinders and other air-operated devices.

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., Dept. NA-63-A, CHICAGO 41, ILL.

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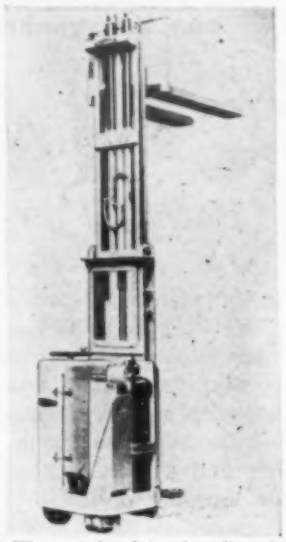
FORK TRUCK is 2000-lb telescopic type



Elevated height of forks on this 2000-lb capacity telescopic fork truck is 132 in., while collapsed height of truck is 83¾ in. Base forks and elevating forks are 30 in. wide and 42 in. long. These features, along with dual tandem load wheels, adapt the truck for handling single-faced pallets and skid platforms. Made by **Raymond Corp.**, 41-102 Madison St., Greene, N. Y.

▲ For more details circle NED-734 F3 on enclosed inquiry slip ▲

PIPE CUTTERS wheel type made in two sizes

Both models in redesigned line of wheel pipe cutters are coated with long-wearing oven-dried lacquer. No. 2 size is for ⅛ to 2-in. pipe, while No. 4 is for 2 to 4-in. pipe. Design permits power to be applied directly to the cutter wheel which, being close to slide track of the guide block, has little slide block wobble. Made by **Beaver Pipe Tools, Inc.**, 310 Dana St. N. E., Warren, O.

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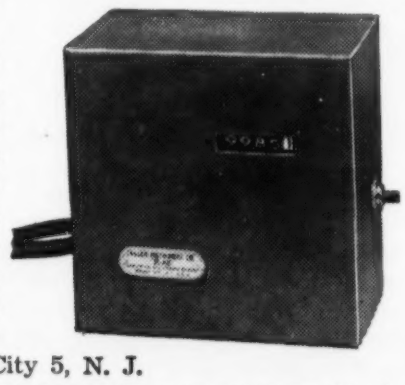
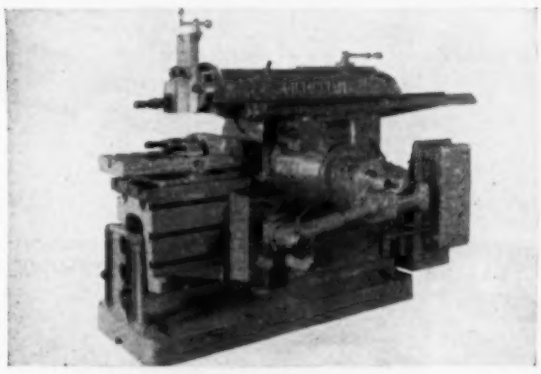
RUNNING-TIME METER also measures down-time

Continuous record of running-time and down-time is provided for all industrial machines operating on alternating current by the AC Hour Log. Housed in a dust-proof steel case, instrument has interior lighting with an off and on switch. Use can be where servicing is based on actual operating time. Made by **Engler Instrument Co.**, 270 Culver Ave., Jersey City 5, N. J.



▲ For more details circle NED-736 F3 on enclosed inquiry slip ▲



CINCINNATI SHAPERS...

feature automatic pressure lubrication, electro magnetic brake and clutch, multiple cam feeds, horizontal and vertical power traverse.

Write for Catalog N-5

THE CINCINNATI SHAPER CO.
CINCINNATI 25, OHIO, U.S.A. SHAPERS • SHEARS • BRAKES

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GROMMETS
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Whatever your problem may be concerning Molded, Extruded, Lathe-Cut or Fabricated Natural or Synthetic Rubber, Atlantic India can help you.

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571 W. POLK ST., CHICAGO 7, ILL., Phone HArrison 7-8290

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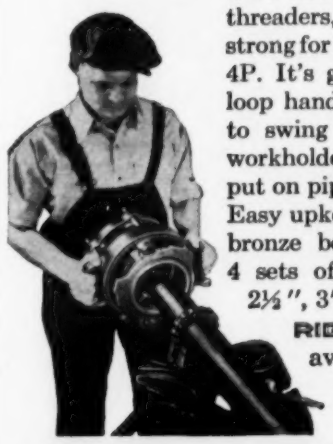
Never before one so easy to carry – easy to put on pipe...

RIDGID 4P Geared Pipe Threader



• If you've rassled with old-style geared threaders, you'll go strong for this RIDGID 4P. It's got balanced loop handles — a cinch to carry and to swing onto pipe. Mistake-proof workholder sets to size before it's put on pipe — only 1 screw to tighten. Easy upkeep — drive pinion in oilless bronze bearing; safe enclosed gear. 4 sets of 5 high-speed steel dies, 2½", 3", 3½", 4"; ratchet handle. RIDGID Universal Drive Shaft available — also 4P for conduit. Buy worksaver 4P at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIDGID Work-Saver Pipe Tools

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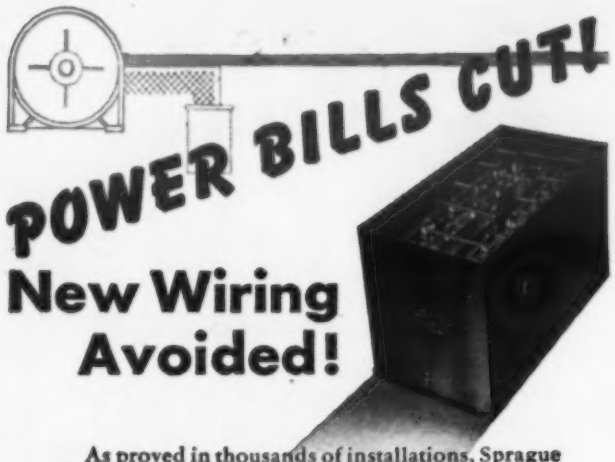

New Wiring Avoided!

As proved in thousands of installations, Sprague Power Factor Capacitors installed *right at each piece of inductive electrical equipment* insure maximum power cost savings, guarantee maximum cost-saving flexibility for future moves and expansion. Power factor on each piece of equipment is corrected *to the maximum.* Changes or additions can be made as *they are required.* New wiring, new switch gear, new transformers can be avoided. *Existing electrical circuits can handle bigger loads.*

Write for 28-page POWER FACTOR CORRECTION GUIDE
SPRAGUE ELECTRIC COMPANY, North Adams, Mass.

SPRAGUE POWER FACTOR CAPACITORS

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FOR MATERIAL HANDLING—
more and more—the swing is to wide-base pneumatic tires

GENERAL
INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics. They know Generals add these extra selling points to handling equipment.

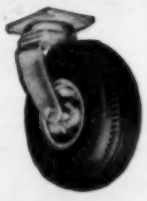
SAVE TIME · MONEY · LABOR

- *MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS*
- *CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE*
- *SAVE HIGH COST FLOORS AND FLOOR SURFACES*
- *SLOW, EVEN WEAR FOR LONG SERVICE*
- *HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND*
- *ROLLS EASIER, SMOOTHER OVER ALL SURFACES*

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

Rigid **CASTER FORKS** *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

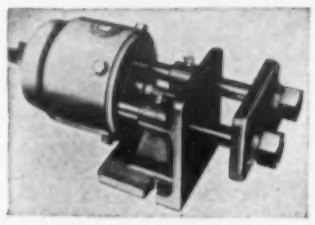


SEND FOR CATALOG . . . DEPT. 4

THE GENERAL TIRE & RUBBER CO. AKRON, O.

▲ For more details circle NED-741 F3 on enclosed inquiry slip ▲

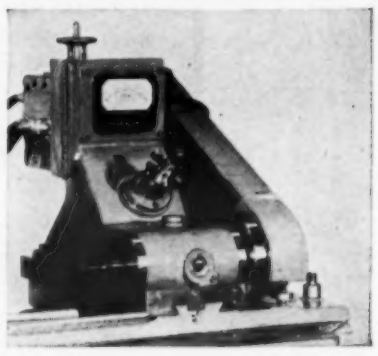
AIR-CONTROLLED VISE can be synchronized with machines



Simple in operation, the RIK air-controlled vise can be synchronized with operations of most machine tools. It is equipped with a Bendix-Westinghouse Robotair chamber. Design places both air cylinder and stationary jaw on the same side of the work piece for safety and speed of operation. Cutting tools need not pass over the cylinder and the operator has ample room to work without getting his hands near revolving tools when inserting pieces. Overall length is 12 in. and jaws measure 5½ in. high and 4½ in. wide. Jaw opening is 2 in., with 6-in. opening optional. Optional Rotochambers supply clamping force of 8 or 11 times air line pressure. Made by **Wilson Bohannan Co.,** 201 Buckeye St., Marion, O.

▲ For more details circle NED-742 F3 on enclosed inquiry slip ▲

THREAD MILLING MACHINES speed is variable up to 3000 rpm



Line of thread milling machines offered in 4 x 9, 10 x 24, 15 x 30 and 20 x 48-in. sizes and with bed lengths made to requirements features infinitely variable speeds up to 3000 rpm. Application of adjustable speed hydraulic motors to cutter spindle drive and work spindle drive allows balancing of cutter speed and work feed. Adjustments are possible during operating cycle. Work chucking and carriage are hydraulically powered from an independent power unit. Feeds are from 6 seconds to 1 minute per revolution, and rapid traverse time is about 4 seconds. Operating cycles can be speeded to 10 times per minute. Made by **Hanson-Whitney Co.,** 170 Bartholomew Ave., Hartford 2, Conn.

▲ For more details circle NED-743 F3 on enclosed inquiry slip ▲

Asbestos Electrical Insulations

Johns-Manville — "Quinterra-Quinorgo" is title of 32-page publication giving complete information about these electrical insulations made of purified asbestos. Tables give test data on physical and electrical properties, and step-by-step methods of application are pictured. Insulations are used for core tubes, layer insulation, wire wrapping, interlaminate insulation, end washers and final wrapper insulation.

▲ For more details circle NED-744 F3 on enclosed inquiry slip ▲

CADDY ARC WELDING ACCESSORY DIV.
ERICO PRODUCTS, INC. 2070 E. 61st PLACE • CLEVELAND 3, OHIO

▲ For more details circle NED-745 F3 on enclosed inquiry slip ▲

THIS partial list of Armstrong Steam Humidifier users names over 700 companies in 18 basic industries. All are aware of the serious effects of dry air on their operations, and all eliminated dry air troubles by installing steam humidifiers. These installations have proven Armstrong Steam Humidifiers to be a dependable means of automatically increasing humidity by adding clean dry steam to the air.

Why put up with costly dryness when a low cost solution is available. *Get complete details. Send for free* BULLETIN No. 1774 *and list of users.*

ARMSTRONG MACHINE WORKS
819 Maple Street • Three Rivers, Michigan

ARMSTRONG STEAM HUMIDIFIERS

▲ For more details circle NED-746 F3 on enclosed inquiry slip ▲

D. O. James Established 1888

Continuous-tooth
HERRINGBONE GEAR SPEED REDUCERS
The Gear With the Backbone

The operating efficiency and dependability of these reducers is continuous testimony to their design and inbuilt qualities of manufacture. They are made in single, double and triple reductions—come in many sizes and in a wide ratio and horsepower range.

SEND FOR CATALOG 40-C

D. O. JAMES GEAR MANUFACTURING CO.
1140 WEST MONROE STREET • CHICAGO 7, ILLINOIS

▲ For more details circle NED-747 F3 on enclosed inquiry slip ▲

Cramer TIMING DEVICES **time delay relays**

Type TEC

PROVIDE POSITIVE CONTROL FOR VITAL PROCESSES AND EQUIPMENT

- *Accurate* . . . Repeat accuracy, ½ of 1%. Overall accuracy (inclusive of setting), 2%.
- *Easy to Set* . . . Micrometer adjusting knob insures extremely precise setting. Special progress pointer indicates unexpired time.
- *Positive Clutch* . . . Serrated face-plate clutch insures positive engagement.
- *Totally Enclosed Switch* . . . Quick make, quick break. Handles 10 amps., non-inductive at 110 volts.
- *Extra Strength Motor* . . . High torque Cramer motor provides extra reserve strength.

Write for complete information.

the **R. W. CRAMER CO., INC.**
BOX 28, CENTERBROOK, CONN.

SCR53

▲ For more details circle NED-748 F3 on enclosed inquiry slip ▲

View of Pines Semi-Automatic in large aluminum plant bending extruded automobile window frames. Output easily meets production line capacity.

PINES Hydraulic SEMI-AUTOMATIC BENDER

FOR PRODUCTION, SHORT-RUN AND MAINTENANCE JOBS, YOU'LL LIKE THESE PINES FEATURES

1 **Simple Tooling** — provides an efficient, economical method of handling a variety of work not adaptable to fully automatic equipment.

2 **Safe, Dependable Accuracy** — smooth, adjustable hydraulic power forms neat bends, assures uniform results, cuts scrap losses.

3 **Easy to Set Up and Operate** — simple tooling adjustments, easy toggle clamping, push-button operation, convenient hand wheel for angle-of-bend selection.

4 **Saves Floor Space** — compact, self-contained hydraulic unit includes motor, pump, reservoir. Occupies less floor space — 3' x 7'

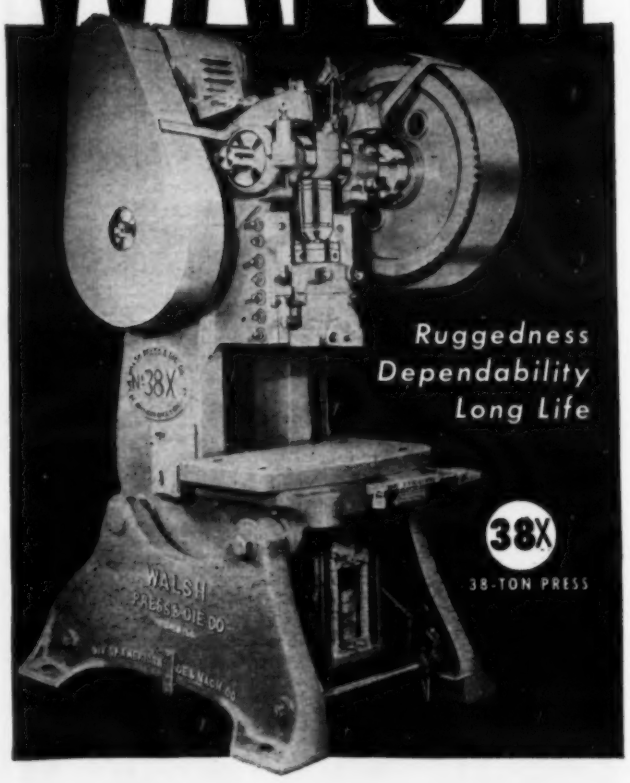
SPECIFICATIONS
- Std. Max. Capacity — 1" O.D. 16-ga. steel tube.
- Max. Rad. of Bend — 8½" to centerline.
- Tube Lengths — up to 5 ft. std. (Provision for longer lengths if required).
- Speed — 29 rpm.
- Working Height — 35".
- Motor — 3 hp.
- Pump — 7 gpm.
- Optional — Adjustable gauges, mandrel for critical bends.

Write For More Facts... Get full details on this dependable, economy-model Pines Bender designed to handle a variety of pipe, tube, bar, and extrusion bending work at speeds up to 300 bends per hour.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
BENDING · DEBURRING · CHAMFERING · THREADING MACHINERY
640 WALNUT
AURORA • ILLINOIS

For more details circle NED-749 F3 on enclosed inquiry slip

WALSH



Rugged Walsh punch presses made in 1907 are still operating at a profit.

All presses lubricated and run-in with Molykote at the factory. For press recommendations without obligation send sample or blueprint to Engineering Department, Walsh Press & Die Co., Division of American Gage & Machine Co., 4709 W. Kinzie St., Chicago 44. EStebrook 8-6700.

WALSH PRESS & DIE CO.
4709 W. Kinzie Street, Chicago 44, Illinois

DIVISION OF
AMERICAN GAGE & MACHINE CO.
SIMPSON ELECTRIC CO. • SIZE CONTROL CO. • WALSH PRESS & DIE CO.

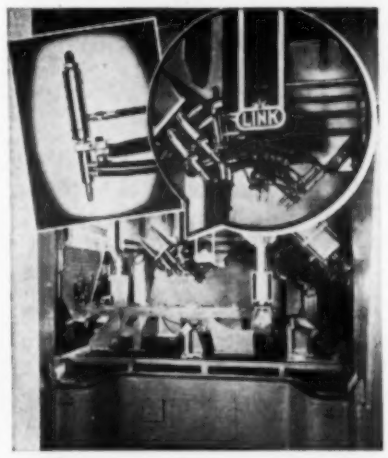
For more details circle NED-750 F3 on enclosed inquiry slip

ALKALINE BATH HEATER
steel sheathed immersion type

Clepco-Glorod series W immersion heater has quartz covered nickel alloy resistance element, reported to give long life. Low heat density prevents both heater and liquids from damage due to carbonization or "frying." The unit is portable, and mounts either over the side of a tank or screws through a 2 in. threaded hole in the bottom. It is suitable for use in high alkaline solutions and copper cyanide plating baths, or in vapor degreasers and for heating alkaline plating baths such as brass, bronze, cadmium, gold and silver. Both 230 and 460-v units are available in capacities of 1000 to 10,000 w, with lengths of 14 to 70 in. and prices of $27 to $82.40. Made by **Cleveland Process Co.**, 7016 Euclid Ave., Cleveland 3, O.

For more details circle NED-751 F3 on enclosed inquiry slip

POINT HOLDER
for resistance welding machines



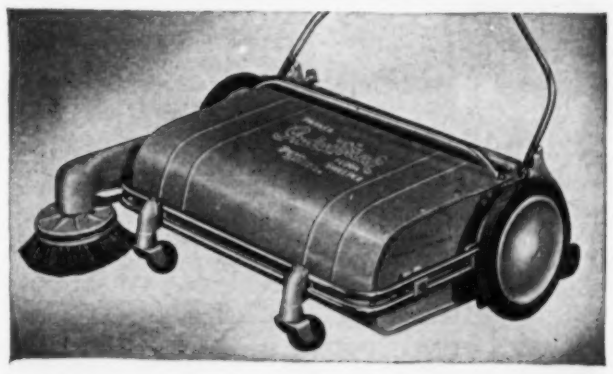
Applicable to standard types of spot welder transformer cables, the collet type point holder can be used in gun mounting. Application in multiple spot welding machines is said to effect a reduction of maintenance costs. Two-piece construction allows either the contact plate or shank to be replaced or repaired. Shanks are available in lengths to permit use of one welding electrode length, regardless of relationship between cylinder and part. Made by **Link Welder Corp.**, 13686 W. Buena Vista, Detroit 27, Mich.

For more details circle NED-752 F3 on enclosed inquiry slip

Elevator & Dumbwaiter Doors

Guilbert, Inc.—Important information for elevator contractors, such as layout data, specifications, hoistway construction requirements and cut-away diagrams, is included in 12-page catalog G2-2 on biparting, telescoping and single section freight and dumbwaiter doors. Also illustrated are power units to convert hand operated elevator doors.

For more details circle NED-753 F3 on enclosed inquiry slip



Pay Dirt

Sweep your floors the Parker Sweeper way and floor dirt becomes pay dirt. A Parker Sweeper is 400% faster than inefficient pushbrooms. It reduces "taken-for-granted" sweeping expenses by surprising amounts. Sweeps and collects in one operation. Easily pushed . . . easily emptied. Ideal for all businesses from small garage to large factory.

Full details in big descriptive bulletin. Write PARKER SWEEPER COMPANY, 66 BECHTLE AVE., SPRINGFIELD, OHIO.

PARKER FLOOR SWEEPERS
Manual and Motorized Models

For more details circle NED-754 F3 on enclosed inquiry slip

HE'S DOING THE WORK OF 3 men IN HALF THE TIME with a GRIPPER WW* SLING

WW*-WOVEN WIRE, new all-purpose sling that's sweeping the materials handling market. Only Gripper Slings are made from WOVEN WIRE!

Using Gripper Woven Wire slings for handling electric motor armatures through repair steps allowed an eastern motor repair shop to cut handling time in half, use only one man where two, sometimes three, were formerly needed!

You'll get equal advantages from Gripper Woven Wire slings in your plant. Use them for heavy, bulky loads, sharp edged pieces, squares, flats or long members...all with equal ease, speed and . . .

GREATER SAFETY

Gripper slings will not snap suddenly. Broken wires will not stick out from the sling to cut workmen's hands. No kinking, tangling, snarling.

Available in standard widths and any length . . . rated and tested for any lifting job. See your mill supply, materials handling or safety equipment distributor for full information . . . or, write direct for FREE illustrated catalog and price list.

The Cambridge Wire Cloth Company
DEPARTMENT R
CAMBRIDGE 6, MARYLAND

WIRE CLOTH · METAL CONVEYOR BELTS · SPECIAL METAL FABRICATIONS

OFFICES IN LEADING INDUSTRIAL CITIES
Distributors—write for open territory data!

For more details circle NED-755 F3 on enclosed inquiry slip

standard stock size
JOHNSON GP BEARINGS
save you money

There are over 900 sizes, 213 different ID-OD combinations, available from your local Johnson Distributor. Johnson GP (General Purpose) Cast Bronze Bearings will meet over 90% of your sleeve bearing needs and will save you time and money. The cost is extremely low. Ask your distributor for the new Johnson Bearing Catalog or write us.

JOHNSON BRONZE CO., 580 S. Mill St., New Castle, Pa.

JOHNSON BEARINGS
Sleeve Type

SLEEVE BEARING HEADQUARTERS Since 1901

For more details circle NED-756 F3 on enclosed inquiry slip

TEMPILSTIKS°

the amazing Crayons that tell temperatures

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

$2 each

gives up to 2000 readings

it's this simple:
- Select the Tempilstik° for your working temperature.
- Mark your workpiece with it.
- The Tempilstik° will leave a liquid mark as soon as its specified temperature is reached.

Available in these temperatures (°F)

113	213	313	450	850	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

TEMPIL CORPORATION
11 West 25th St., New York 10, N. Y.

FREE—Tempil° "Basic Guide to Ferrous Metallurgy" —16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

Booth 125 Welding & Industry Exp. Houston, Texas

For more details circle NED-757 F3 on enclosed inquiry slip

NEW CONCEPTS IN FINE-PITCH GEAR SUPPLY!

RYNEL

PRECISION GEARS

DESIGNERS AND SUPPLIERS
Electronic
Instrument
Communication
Navigation
Power Tool
and
Appliance
FINE-PITCH GEARS

Laboratory Tested for Precision Requirements

Rynel's modern gear checking laboratory delivers fine-pitch gears to your assembly line — as specified. From blanks to stated gear tooth performance, each Rynel fine-pitch gear must meet rigid standards set by Rynel gear engineers. Precision checked at each operation, a final Gear Lab check-out furnishes you with a test run of operating quality and interchangeability . . . exactly to your specifications.

Call a Rynel Engineer for service on your fine pitch gear supply problems.

He can visit you the same day you call through Rynel's exclusive Air Lift Service.

PHONE STERLING 4440

RYNEL CORPORATION
302 Miller Street • Sterling, Illinois
Chicago Office: 4750 N. Western Avenue
Telephone: LOngbeach 1-7111

Spur • Helical • Worm • Worm Gear • Internal Segment • Sprocket • Ratchet • Straight Bevel

▲ For more details circle **NED-758 F3** on enclosed inquiry slip ▲

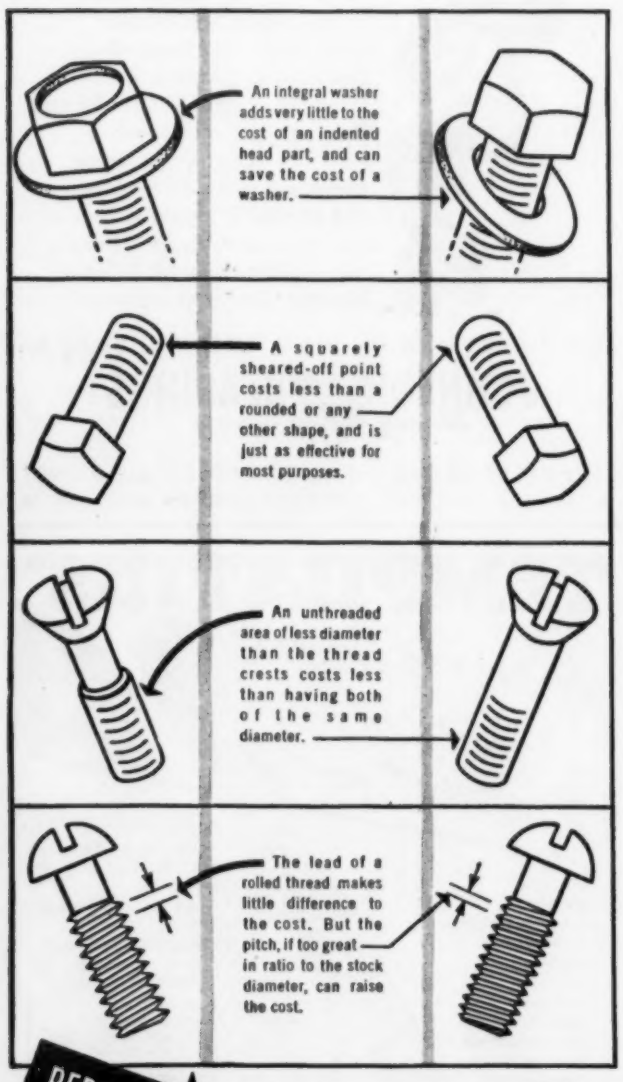
MORE WAYS TO

SQUEEZE PENNIES

OUT OF

UPSET SPECIALS COSTS

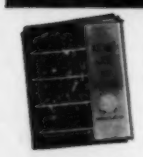
Specially designed upset products are solving thousands of problems. Dozens of design pointers on them are yours for the asking. Send us your sketches, prints, finished products for suggestions.



REPRINTS *of this chart are available on request for use in drafting and purchasing departments.*

QUALITY PROMCO BRAND

MACHINE SCREWS AND SPECIAL FASTENERS ARE OUR BUSINESS



WRITE FOR OUR CATALOG

THE PROGRESSIVE MANUFACTURING COMPANY
46 NORWOOD ST., TORRINGTON, CONN.

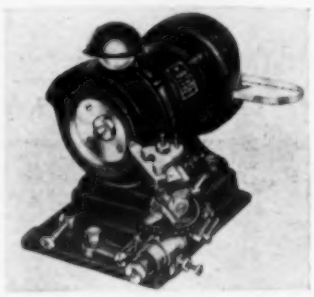
▲ For more details circle **NED-759 F3** on enclosed inquiry slip ▲

POWER NIBBLER
performs variety of operations

Accessories provided with model G power nibbler enable it to bead, fold, cut straight or circular, and cut slots or louvers, either irregularly or freehand, with simple adjustments. Detachable crank case permits the construction of special frames at reasonable cost. Machine capacity is up to 3/32-in. cold rolled steel continuous cutting (1/8-in. short cuts), 5/64-in. stainless and 5/32-in. brass or copper. Maximum and minimum circles that can be cut are 28½ and 2 23/64 in., respectively. Folds to 5/64-in. and beading to 3/32-in. plate thicknesses can be accomplished. Distributed by **Nord International Corp.**, P. O. Box 44-N110, Denville, N. J.

▲ For more details circle **NED-760 F3** on enclosed inquiry slip ▲

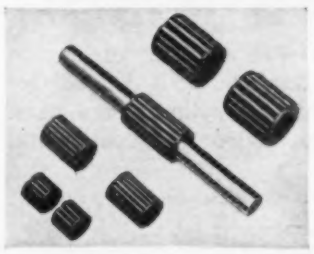
TOOL GRINDER
performs wet or dry grinding



Supplied in bench and floor types for wet or dry grinding, model AP tool and cutter grinders have precision adjustable tables. Accessories for grinding radii, chip breakers, drills and other specialty work are available. The unit is equipped with a quick-acting indexing table and reciprocating action toolholder, so that the full wheel face can be used. Made by **Thomas Prosser & Son,** 64 South St., New York 5, N. Y.

▲ For more details circle **NED-761 F3** on enclosed inquiry slip ▲

ROLLER BEARINGS
cage-type for low stress use



Specially designed for slow moving machinery, line of precision cage type roller bearings is suitable for most types of farm machinery, conveyors, wagons, wheel toys and material handling equipment. Bearings are statistically controlled for quality and precision in production, hydraulically assembled for uniform stress and individually inspected for ID and OD specifications. A standard size range and custom models are being produced. Made by **Inland Automatic, Inc.,** Dept. B32, 1108 Jackson St., Omaha 8, Nebr.

▲ For more details circle **NED-762 F3** on enclosed inquiry slip ▲

The NEW F&H ECONOMY WHEEL

A Packaged WHEEL-HUB-SPINDLE-BEARING ASSEMBLY *for* LIGHT APPLICATIONS

This LOW COST, soundly engineered Economy Wheel is designed for loads averaging 750 lbs. per wheel. For original and replacement use on portable grain elevators, light trailers, lime spreaders, sprayers etc., etc.

ASSEMBLY PARTS

(Left to Right) Rim and Disc, Spindle, Washer, Roller Bearing, Hub, Spacer, Roller Bearing, Washer, Cap and Locking Pin.

MANUFACTURERS

Here is a standard approach that relieves you of engineering and procurement problems — and SAVES substantially on cost. Worth investigating.

We Invite Your Inquiries

FRENCH & HECHT DIVISION
KELSEY-HAYES WHEEL COMPANY
DAVENPORT, IOWA, U. S. A.

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All over the country, engineering departments find them in seconds with Filmsort—the easy way to store bulky drawings for quick and easy reference. They microfilm drawings of all sizes, file the film in uniform cards as small as 3x5", and find the Filmsort cards quicker than the original drawings.

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DEPT. I, PEARL RIVER
NEW YORK

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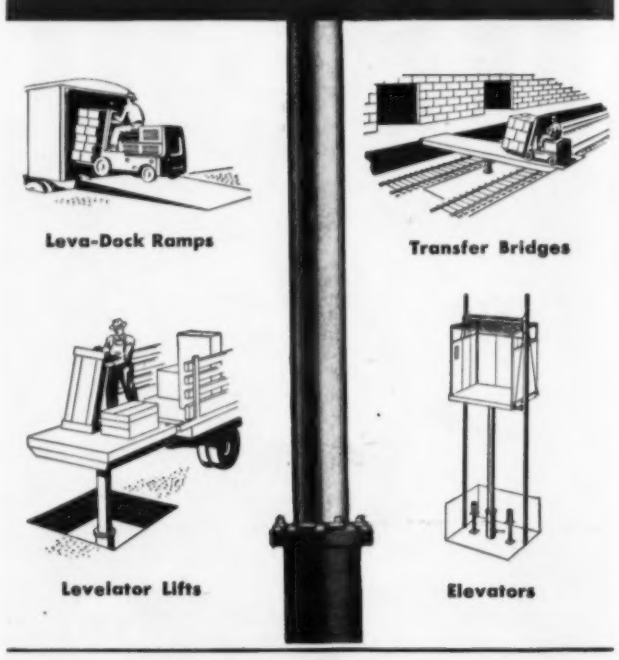
Rotary

OILDRAULIC POWER

Cuts the cost of lifting heavy loads



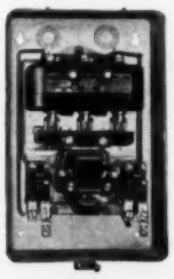
Write for catalogs

ROTARY LIFT CO., 1064 KENTUCKY, MEMPHIS 2, TENN.

▲ For more details circle **NED-765 F3** on enclosed inquiry slip ▲

Banish CONTROL nightmares with CLARK TYPE "CY" starters!

• They've got everything—*everything necessary* to provide simple installation, easy inspection, minimum maintenance and long, satisfactory operation.



- No filing, dressing or cleaning of contacts!
- No tools necessary to inspect contacts!
- Easy to change moving contacts!
- Stationary contacts changed quickly!
- Remove only two screws and one pin to change coils!
- Remove only four screws to take out stationary magnet frame!
- Power circuit contacts available with springs, in complete packaged service kits for ease in stocking!

• Type "CY" starters, Sizes 2 and 3, employ an entirely new principle of arc interruption. The arc is extinguished by the effect of the blow-out coil, concentric with the contact. The magnetic field quenches the arc either by lengthening or confining it. In its forced rotation it moves continually from a hot to a cold spot—minimizing burning or pitting of contacts. The ingenious design of the arc chamber prevents carbonization and the accumulation of hot gases between wiring terminals—minimizing phase-to-phase failures. Sizes 0 and 1 are built with the same mill-type construction as the larger sizes.

Available through all authorized CLARK DISTRIBUTORS everywhere.

THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL • 1146 EAST 152ND STREET, CLEVELAND 10, OHIO

▲ For more details circle **NED-766 F3** on enclosed inquiry slip ▲

Another FLASH-O-LENS at work ...checking soundness of welds at INTERNATIONAL HARVESTER

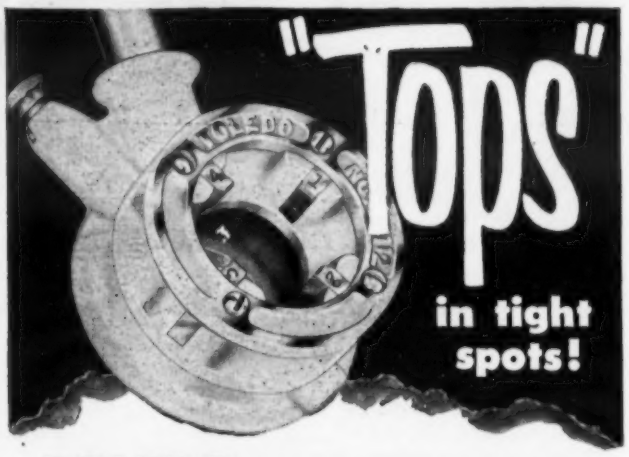
By *lighting* and *magnifying* welded parts with FLASH-O-LENS, International Harvester Company's Memphis Plant guards against the most minute cracks in the welds.

FLASH-O-LENS offers a quick, simple way of detecting defects—of maintaining product quality. Built-in bulb brightly illuminates the inspection area—accurately ground lenses give sharp, detailed enlargement.

Battery and plug-in models from $10.65. Write for free literature on applications, types, prices.

E. W. PIKE & COMPANY
492 NORTH AVENUE ELIZABETH 3, N. J.

▲ For more details circle **NED-767 F3** on enclosed inquiry slip ▲



TOLEDO DROP HEAD TOOLS

HANDY FOR CLOSE CORNER JOBS. These popular Toledo Ratchet Threaders are small, light, compact! Produce clean-cut threads easily . . . anywhere!

QUICK CHANGE OF SIZES. Die heads drop into ratchet from either side, held securely.

DIES OF FINEST TOOL STEEL. Precision-ground. Die segments can be reground when dull or replaced at small expense. Three models: No. 00—⅛" to ¾"; No. 11—⅛" to 1¼"; No. 12—½" to 2" pipe.

ORDER THROUGH YOUR SUPPLY HOUSE. Write for catalog. The Toledo Pipe Threading Machine Co. Toledo, O.

RELY ON THE LEADER **TOLEDO**

PIPE TOOLS . . . POWER PIPE MACHINES . . . POWER DRIVES

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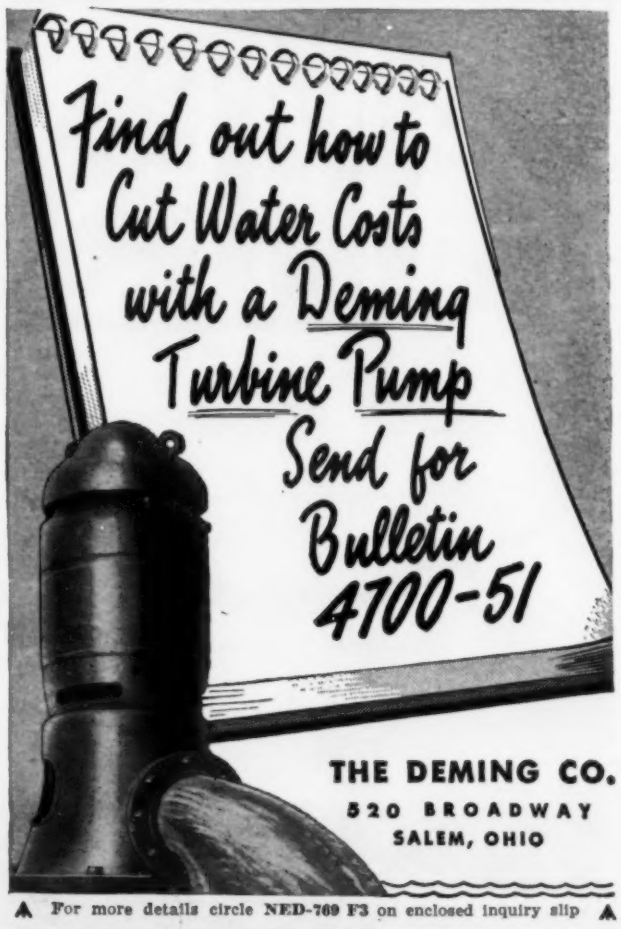


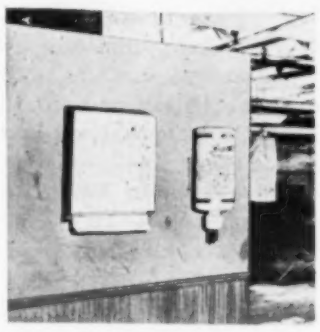
▲ For more details circle **NED-769 F3** on enclosed inquiry slip ▲

SEPARATOR-FILTER for compressed air line installation

Any moisture or oil present in compressed air lines will be removed by the Triumph AA separator-filter for 125 psi line pressure. Sizes are for ¼ or ¾ in. and ½ or ¾-in. lines. Installation is between distributing lines and point of use, preferably as near as possible to the latter. Separator section removes most of moisture and ejects it through an automatic trap, while the filter removes remaining traces of oil and vapor. Desiccant is replaceable. Made by **Jas. A. Murphy & Co.**, Dept. N, 1421 High St., Hamilton, O.

▲ For more details circle **NED-770 F3** on enclosed inquiry slip ▲

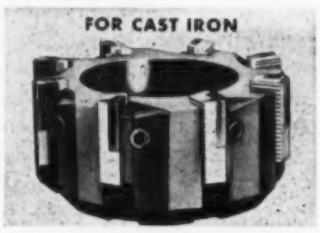
HAND CLEANING STATION has waterless hand soap and towels



Location of "hand care" stations near production equipment enables workers to take better care of their hands and reduces time away from machines. Each such wall-mounting station consists of a gallon or quart dispenser of Hammons waterless hand soap and a wall cabinet of paper towels. No water is used in cleaning the hands. Workers benefit from the lanolin and glycerin content of the lotion-type liquid. Made by **Hammons Products, Inc.**, 2100 Lincoln Tower, Ft. Wayne 2, Ind.

▲ For more details circle **NED-771 F3** on enclosed inquiry slip ▲

SHELL END MILLS with quick-replaceable blades



Steel, cast iron and nonferrous metals can be cut by a line of standard shell end mills with quick-replaceable blades. Blades have serrated back design with carbide tips and are secured with minimum stress by wedges which distribute holding pressure along the entire blade length. Cutters for steel, designated as type DBSS, are offered in 4, 5, 6 and 8-in. diameters. Those for cast iron are designated as DBS and made in 3 to 8-in. sizes. Made by **Super Tool Co.**, 21640 Hoover Rd., Detroit 13, Mich.

▲ For more details circle **NED-772 F3** on enclosed inquiry slip ▲

TOGGLE CLAMPS

De-Sta-Co Toggle Clamps are extremely flexible in their application and are economically and easily adapted to work-holding fixtures for assembly, welding, bonding, machining or other production processes. Smooth, fast, powerful clamping action clamps parts quickly . . . holds them firmly in perfect alignment . . . releases instantly for easy removal and insertion of new workpiece.

De-Sta-Co clamps are engineered for rugged use in production; reamed bearing holes insure precision fit, long life and sensitive operation . . . offsets in handles and links relieve friction . . . made with cold drawn bars, and forged portable clamp parts. Accessories for adapting clamps to specific applications are available.

Write today for name of nearest distributor and your copy of the De-Sta-Co catalog which describes over 40 fixture and portable models with positive holding pressures up to 4000 pounds.

DESTACO DETROIT STAMPING COMPANY
360 MIDLAND AVE. • DETROIT 3, MICH.

▲ For more details circle **NED-773 F3** on enclosed inquiry slip ▲

Do it with a Waltz small tool Furnace!

furnace - quench tanks - furnace (corner) positioning

furnace - furnace - quench tanks (side-by-side) positioning

furnace - quench tanks - furnace (side-by-side) positioning

Compact units fill very little space, can easily be positioned to fit your floor plan (see diagram at left). Furnace sections equipped with casters.

Includes a pre-heat furnace, a high heat furnace, and quench tanks. Temperature range permits treatment of all high speed steels including cobalt.

Waltz small tool furnaces are "money makers" in hundreds of shops throughout the country.

A complete line of Waltz standard or special heat-treating furnaces, using all types of fuels, are built to suit your requirements. Write Dept. B for comprehensive bulletin.

Waltz furnace company
SYMMES STREET
CINCINNATI, OHIO

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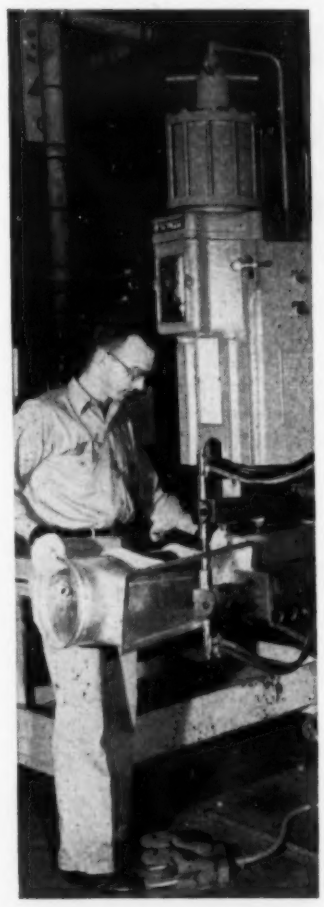
MEETING MILITARY SPECS IS AN OLD STORY FOR T-W USERS



Specifications Mil-W-6860 and 6858 (formerly AN-W-30 and 32) and Taylor-Winfield resistance welding equipment have been partners for years.

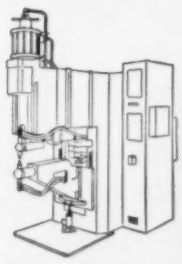
From Taylor-Winfield you can have the efficient Tri-Phase DC or Single Phase Spot and Seam AC welders in many sizes and styles. From Taylor-Winfield you can obtain all the engineering data or field assistance you need to meet your problem, and the welders to do the job.

Let T-W know your requirements. Write, wire or phone.

RESISTANCE WELD

AIRCRAFT FRAMES
JET ENGINE PARTS
•
PROJECTILES
WEAPONS
CONTAINERS
•
ALUMINUM ALLOYS
STAINLESS STEELS
NICKEL ALLOYS
LOW ALLOY STEELS
TITANIUM ALLOYS
LOW CARBON STEEL
ALLOYS OF MAGNESIUM
COPPER AND OTHER MATERIALS

THE TAYLOR-WINFIELD CORPORATION • WARREN, OHIO
Sales and Service In All Principal Cities

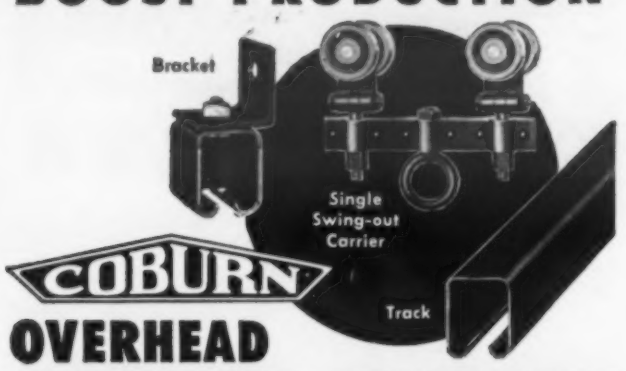


Resistance Welders Since 1883

TAYLOR-WINFIELD
RESISTANCE WELDERS

▲ For more details circle **NED-775 F3** on enclosed inquiry slip ▲

BOOST PRODUCTION



COBURN

OVERHEAD CONVEYING EQUIPMENT

Meet today's need for maximum plant production, increased efficiency and faster handling of materials with Coburn Overhead Conveying Equipment. It gives you unobstructed floor space, requires very little headroom, makes it easy to spot work directly over machines. Loads up to 3000 lbs. handled by hand chain or electric hoist; power-operated equipment also available.

For additional information write to Sales and Engineering, 56 Sterling St., Clinton, Mass., or consult your classified telephone directory. Write today for catalog #220.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CFI

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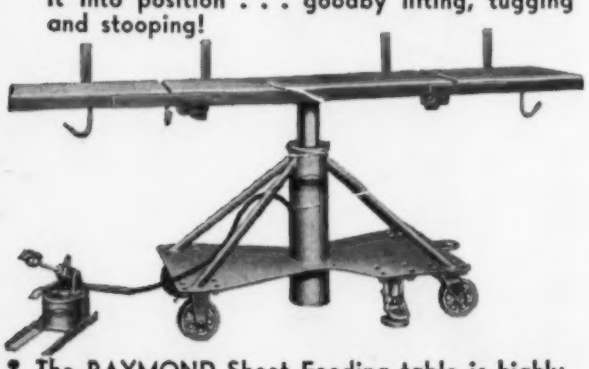
DON'T HAMPER HIM

with Hydraulically-operated

RAYMOND

SHEET & STRIP FEEDING TABLES

- Watch work speed up when you replace makeshift handling arrangements with this RAYMOND Hydraulic Sheet Feeding Table! Why? Because this table banishes unnecessary handling, reduces fatigue, eliminates hazards. Hydraulic power elevates material to the correct working level. The operator simply slides it into position . . . goodby lifting, tugging and stooping!



- The RAYMOND Sheet Feeding table is highly portable. Load it up with dies or material in storage, then tow it directly to the machine. It's available with foot pump or electric-driven power pump with flat or tilting top. Capacities from 2,000 to 20,000 lbs.

MAIL THIS COUPON . . . Get Bulletin 262 . . . it gives you the facts on RAYMOND Sheet Feeding Tables!

The RAYMOND CORPORATION
4108 Madison St., Greene, N.Y.

Please send me Bulletin 262, showing your complete line of Sheet Feeding Tables.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-777 F3 on enclosed inquiry slip ▲

New Literature and Catalogs

Steel Channels & Fittings

Flexa Steel Products, Inc.—Basic information on this company's line of steel channels and fittings, including dimensioned drawings and engineering data, can be found in 44-page catalog 153. Products can be used for many material handling and construction uses. Cross sectional drawings, physical properties and specifications are included.

▲ For more details circle NED-778 F3 on enclosed inquiry slip ▲

Motorized Industrial Sweeper

Moto-Mower Co.—Commander model Moto-Sweeper described in illustrated bulletin "An Entirely New Sweeping Principle" has dual brushes arranged in tandem and operating in opposite directions, plus vacuum dust control. Specified unit is for large and small areas.

▲ For more details circle NED-779 F3 on enclosed inquiry slip ▲

Surface Pyrometers

Cambridge Instrument Co.—Instantaneous in action, accurate thermoelectric surface pyrometers indicate temperature of flat and curved surfaces, still or moving, whether within arm's length or hard to reach. Full description with typical applications and ranges of roll, extension, mold and needle type instruments are presented in 12-page bulletin 194-SA.

▲ For more details circle NED-780 F3 on enclosed inquiry slip ▲

Cleaning Clad Steel

Lukens Steel Co.—Recommended cleaning procedures for potentially harmful surface contamination on clad steel equipment are outlined in 12-page guidebook 602. Solution formulas for cleaning specific surfaces, plus information on handling clad steel equipment during relocation are included.

▲ For more details circle NED-781 F3 on enclosed inquiry slip ▲

Spray Insulation Efficiencies

Insul-Mastic Corp. of America—Charts contained in 4-page folder provide specific temperature data and efficiency ranges of type D spray applied insulation used to control condensation. Temperature and humidity at which condensation will form on non-insulated surface is also charted.

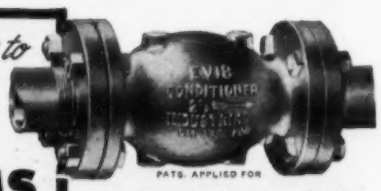
▲ For more details circle NED-782 F3 on enclosed inquiry slip ▲

Chromatography Equipment

Schaar & Co.—16-page catalog entitled "Lab Oratory" features complete listing of paper partition Chromatography apparatus and equipment. Other newly introduced instruments and equipment for research, development and control laboratories are also included.

▲ For more details circle NED-783 F3 on enclosed inquiry slip ▲

The Simplest Way to
SOLVE SCALE PROBLEMS



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Proven Uses Include
ALL PIPING SYSTEMS
CONDENSERS (most types)
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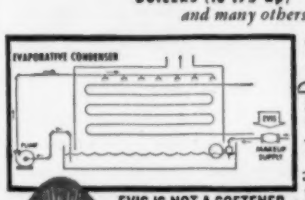
ENGINES & COMPRESSORS
CUBE & FLAKE ICE MAKERS
BOILERS (to 175 wp)
and many others

EVIS Water Conditioners are helping industry conquer its costly scale problems. Plant equipment is made to operate at higher efficiency. Maintenance costs are profitably lowered and shut-downs for periodic cleanups are often entirely eliminated. The EVIS units are Specially Processed to impart a continuous catalytic action on water-solids flowing through it. This action alters physical behavior sufficiently to inhibit most scale formations. Many thousands of EVIS Water Conditioners are now in service.

Write for further information or ask your Plumbing Supply, Air-Conditioning-Refrigeration or Industrial Equipment Jobber.

SIZES | ⅝" thru 2" screwed; 2" thru 12" flanged



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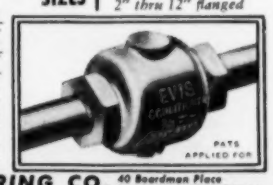
Flow Line Type Available for Deep Well Pumps

SOLD ON 90-DAY MONEY-BACK GUARANTEE



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▲ For more details circle NED-784 F3 on enclosed inquiry slip ▲

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Heats "just right" at *any* height

Any height above four inches from the floor is "just right" with Dunham Fin-Vector along outside walls.

Materials used provide rapid heat transfer. Choices of pipe and fin sizes and fin spacing assure adequate heat.

Easy to Install

Fin-Vector is light in weight, needs few supports, requires little on-the-job cutting, speeds assembly.

Three cover designs available with complete line of accessories to form tight, sturdy, "finished" looking installation.

For further information, write to Dept. 14 for File 1256-61.

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DUNHAM

Quality first for fifty years

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SHIPPING COSTS GO DOWN
CORROSION LOSSES STOP
WITH MARVELLUM VPI® WRAP

- Time consuming slushing, expensive wraps and seals, messy and costly cleaning are no longer necessary if you use Marvellum VPI. Developed for Government shipments during the war, VPI is now available to all. It's the ideal wrap for shipping Ferrous metal parts. A special coating on the paper vaporizes and forms an invisible protective film around the item wrapped, preventing corrosion.

It is easy to use — just fold the paper over the part. Tight seals, rust-preventive oils, puncture-proof wrappings or direct contact with the chemical are not necessary. Yet Marvellum VPI protects against rust for years. Open the wrapping and there's the part as bright and clean as when it was made.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, coating and producing VPI Wraps. Also makers of a wide range of other Barrier Materials, Government Approved, for product protection.

Write for FREE Booklet and name of nearest distributor.

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30 APPLETON STREET HOLYOKE, MASS.
First and Foremost in VPI Protection

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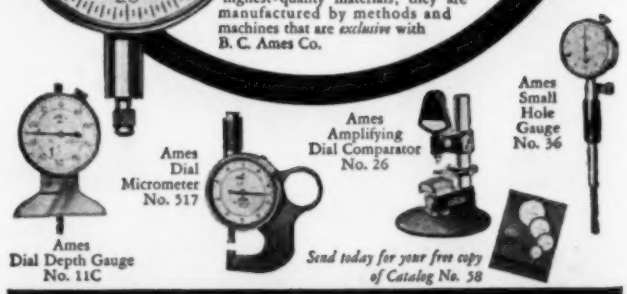
AMES

...the preferred Dial Indicators

One of America's largest and most famous mass-producers recently chose Ames as preferred source of supply for indicator gauges. They did because the four sizes of Ames "Hundred Series" indicators fit every measuring requirement; they are *accurate, sensitive,* low in friction, yet are *rugged* and *tough* — give *more* on-the-job time. All Ames products embody latest design and highest-quality materials; they are manufactured by methods and machines that are *exclusive* with B. C. Ames Co.



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Representatives in principal cities. B. C. AMES CO. *34 Ames Street, Waltham 54, Mass.*
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

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drills 6 inches of concrete per minute

...gives lowest cost per foot of concrete drilled with a

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ROTARY KONKRETE KORE DRILL

Patented core slot expels cuttings automatically

U.S. Pat. No. Re. 23539

Drill straight, clean, ready-to-use holes at speeds up to 6 inches per minute—even through steel reinforced concrete. TILDEN Rotary Koncrete Kore Drills can be used with ordinary electric or rotary air drill. Free Factory sharpening and repair service still available on all Standard TILDEN Drills from 3/16" to 8-inch diameters. Interchangeable shanks for any depth hole.

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For more details circle NED-788 F3 on enclosed inquiry slip

Now a Better Welder AT A LOWER PRICE

Sureweld® A-C Shop Welder improved in many ways

The Sureweld A-C Shop Welder, for general utility welding, has always been outstanding for the remarkable arc stability it has provided, the desirable welding characteristics at all current levels and the operator's control of current value.

And now this welder has been greatly improved. The exclusive Sureweld 4-coil transformer has been positioned horizontally for even better ventilation and cool operation even with higher output. Primary insulation and secondary windings provide high dielectric strength for peak performance at high heats. Operator's convenience has been increased by side-mounting the control handle next to the high-visibility calibrated scale. Other advances markedly decrease KVA input and increase ease of operation, dependability and portability. Best of all, the improved design has resulted in lower prices.

Send for descriptive bulletin NH-101 today.

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NCG NATIONAL CYLINDER GAS COMPANY
840 N. Michigan Avenue, Chicago 11, Ill.

For more details circle NED-789 F3 on enclosed inquiry slip

ARMSTRONG-BRAY GEAR and WHEEL PULLERS

Quickly and easily pull gears, wheels, pulleys and bearings off of shafts without damage or breakage.

Improved designs make them easy to set up and safe in use—the harder the pull the tighter the grip.

12 types, 40 sizes—2-arm, 3-arm, standard and special STEELGRIP Pullers with drop forged arms and heat treated screws as well as CHAINGRIP Universal Pullers that reach to considerable distances from end of shaft.

Write for Catalog

ARMSTRONG-BRAY & CO.
5362 NORTHWEST HIGHWAY
CHICAGO 30, U.S.A.

For more details circle NED-790 F3 on enclosed inquiry slip

New Processes and Materials

COLORED STENCIL INKS spray from aerosol dispenser

Black, white, red, blue and yellow stencil inks are now available packaged in aerosol dispensers. Inks are quick-drying and waterproof, and, when packaged in this manner, lend themselves to efficient, speedy production. Test results show from 100 to 120 average three-line stencils from one 12-oz can. Made by **Reynolds Industries, Inc.**, Dept. N, 4500 Euclid Ave., Cleveland 3, O.

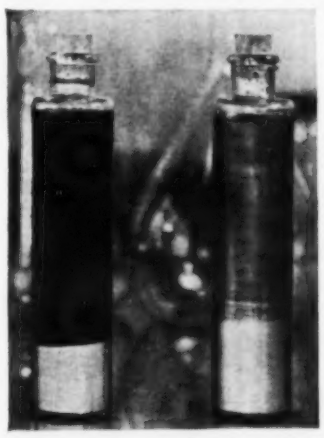
For more details circle NED-791 F3 on enclosed inquiry slip

CALCIUM OXIDE has low fluorine content

For use as a fluorine fixative in the analysis of any material where there is a danger of fluorine loss during storage, drying or ashing, calcium oxide is being made available with a fluorine content of only 0.00002-per cent. It is useful as a fixative in volumetric and spectrographic determination of fluorine. Available from **Fisher Scientific Co.**, 715 Forbes St., Pittsburgh 19, Pa.

For more details circle NED-792 F3 on enclosed inquiry slip

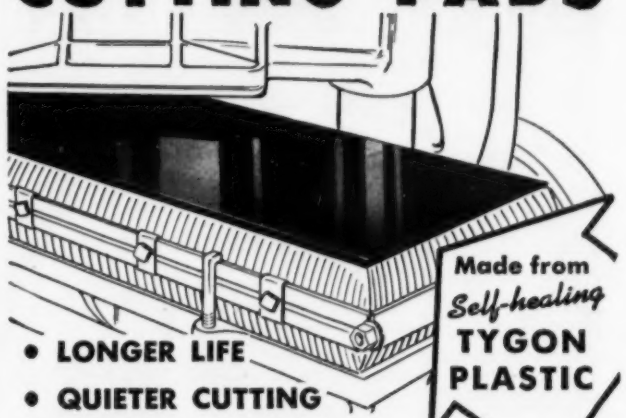
ALUMINUM PIGMENT for ready-mixed paints



High pigment volume is feature of MD-515 aluminum paste, a metallic pigment for ready-mixed paints. It remains in suspension for long periods, has fast leafing rate and is easily dispersible. Controlled particle size distribution provides high covering capacity. Mesh size meets Federal and ASTM specifications. Paint films are bright and of highly diffused appearance, a feature desirable for exterior maintenance and interior illumination. Pigment dispersion of MD-515 is shown in right-hand bottle as compared to that of standard aluminum paste in left-hand bottle. Developed by **Metals Disintegrating Co.**, 1185 Lehigh Ave., Elizabeth, N. J.

For more details circle NED-793 F3 on enclosed inquiry slip

CUTTING PADS



Made from Self-healing TYGON PLASTIC

- LONGER LIFE
- QUIETER CUTTING
- CLEANER, SAFER CUTS
- USABLE ON BOTH SIDES

Colonial self-healing Cutting Pads on clicker machine or hand die cutting often double, even triple die life. Clean, sharp cuts, no bounce backs, no splinters. Use Colonial Cutting Pads to cut leather, rubber, plastics, candy, paper, fibre, cork, felt, cloth, light gauge metals. 68C-1

Write for Sizes, Prices — Address Dept. NED 851

COLONIAL RUBBER CO.
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For more details circle NED-794 F3 on enclosed inquiry slip

FREE! Authoritative data for machine design and power transmission engineers

NO. 1—PREVENTIVE MAINTENANCE IN THE FACTORY OF THE FUTURE

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Write — Booklets offer new, low-cost solutions to current machine design problems, as interpreted by industry experts. A "must" for management.

WARNER ELECTRIC BRAKE & CLUTCH CO.
BELOIT, WISCONSIN

For more details circle NED-795 F3 on enclosed inquiry slip

This camera helped Parker strike a hotter spark

Parker Pen Company engineers like a hot spark to light the compressed gas in their new Flaminaire lighter.

Getting a hotter spark meant a study of the split-second action between various kinds of sparking wheels and "flint" materials. Parker did the study with their Kodak High Speed Camera.

This versatile instrument takes up to 3200 pictures a second on 16mm film—slows action as much as 200 times when the films are projected at normal speed on a standard projector. By analyzing the films, Parker engineers and research physicists were able to study spark particle propulsion and ignition phenomena. The result was the design and development of a more efficient and durable lighter mechanism.

If you have a product design or performance problem involving high speed action, high speed movies may show you the answer with less time-consuming cut-and-try experimentation. And, you'll find the Kodak High Speed Camera has a speed range and ease of operation that make it particularly suited to industrial applications. To find out how it has worked for others, send for your copy of our informative booklet. Or, write for details on a sound movie, "Magnifying Time."

Industrial Photographic Division
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

the Kodak HIGH SPEED Camera

Kodak

For more details circle NED-796 F3 on enclosed inquiry slip

IF YOU USE AIR
IN YOUR PRODUCT OR
IN YOUR PLANT

Look to

Kellogg-American

FOR COMPRESSOR PUMPS
Soundly designed, highly efficient. Precision built to deliver more *free air per hp.* Standard units available for pressures up to 200 p.s.i. Single or two stage, one or two cylinders.

FOR COMPLETE AIR COMPRESSORS
Known over 40 years for their efficiency, long life, quiet, economical operation. Available in sizes from ¼ hp through 10 hp. Portable or stationary, skid or tank-mounted, electric motor or gas engine-driven models.
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AIR COMPRESSORS PAINT SPRAY EQUIPMENT

For more details circle NED-797 F3 on enclosed inquiry slip

the switch is ON to
GUARDIAN
GOVERNMENT APPROVED
Interchangeable
AIRCRAFT
RELAYS

AIRCRAFT DESIGN ENGINEERS can allow for continuously changing power and performance requirements through the complete *interchangeability* (on the same mounting base) of this new line of Guardian Aircraft Relays. Standard spacing of mounting bracket holes provides extreme flexibility. **It's the way to meet new control specifications without changes in frame drawings!** Units range from single pole, single throw (time delay available) to four pole, double throw contact combinations, with ratings from 10 amperes to 50 amperes at 28 v., D.C. All sealed in accordance with MIL-R-6106. Weights: from 7.5 ounces to 20.8 ounces. Write for Bulletin 1 AR.

200 Ampere Solenoid Contactor

NOTE THE PRECISE ALIGNMENT OF MOUNTING HOLES!

Specify from Guardian's complete range for every advantage of quick interchange!

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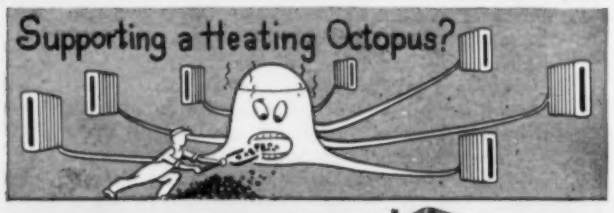
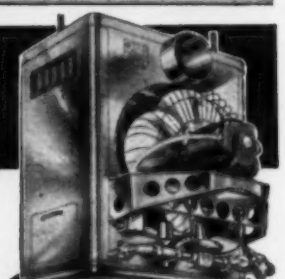
1626-G W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

For more details circle NED-798 F3 on enclosed inquiry slip

Supporting a Heating Octopus?



Each REZNOR GAS UNIT HEATER IS A COMPLETE HEATING MACHINE



★ NO LOSS from heat transmission
★ MAKES HEAT where you want warmth
★ SPOT-LOCATE as many REZNORS as you need (no interconnection)
★ ADD to the system as you want (no leaders to run)

REZNOR
WORLD'S LARGEST-SELLING GAS UNIT HEATER

REZNOR IS MODERN . . .
—As many diesel locomotives add or subtract power units as power is needed, Reznor units can be put into or withdrawn from service as heat is needed. REZNOR is efficient. REZNORS install quickly. Before you install any heating—primary or auxiliary, check REZNOR.

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Send me 20-page catalog in full color

Name_____
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Address_____
City_____ Zone____ State____

For more details circle NED-799 F3 on enclosed inquiry slip

New Literature & Catalogs

Wood, Metal Paint Stripping

Octagon Process Inc.—Exact procedures for using 11 types of paint strippers for practically any wood or metal finish, including those on aluminum and delicate alloys are given in 13-page instruction booklet. Quick-reference chart makes selection of right stripper for job easy. Wipe-on, immersion and spray methods by hot alkaline and hot or cold solvent types are covered.

For more details circle NED-800 F3 on enclosed inquiry slip

Broaches & Broaching Machines

American Broach & Machine Co.—32-page catalog 450 features a section on broaches and one on broaching machines and applications. Section I is descriptive of various broach designs, broach pullers, keyway broaching, resharpening and care of broaches. Section II illustrates various broaching machines and describes internal and surface broaching operations.

For more details circle NED-801 F3 on enclosed inquiry slip

Wear-Resistant Castings

Diamonds & Tools, Inc.—Colmonoy castings for machine parts that must resist wear, corrosion, impact, indentation and high temperature are described in 6-page folder. Standard castings shown include lathe and grinder center tips, centerless grinder tips and chuck jaw inserts, as well as wear strips and pads, machine gibs, valve balls, seats and chuck jaw inserts.

For more details circle NED-802 F3 on enclosed inquiry slip

Below-Zero Metal Chilling

Sub-Zero Products Co.—Below zero chilling for alloy steel heat treatment, metal stabilization, gas dehydration and parts and material testing is covered in 12-page brochure. Specific treatment and cycles for transformation of austenite to martensite are given for water and oil hardening tool steel, alloy carburizing steels, high alloy die and high speed and moly type steels. Chill units from −10° to −150° F are described.

For more details circle NED-803 F3 on enclosed inquiry slip

Tools & Accessories

Heinrich Tools, Inc.—Brochure contains catalog information on hand-operated nibblers, shears, rod cutters and punches; screwless drill press vises; screw type drill press vises; and screwless fixture locks. Full specifications and ordering information are included.

For more details circle NED-804 F3 on enclosed inquiry slip

Stampings Service

Duplicon Co.—Fully illustrated catalog tells of a contract small lot stampings service in steel, brass and aluminum. Bulletin reports how this service can lower production costs and result in time and labor economies.

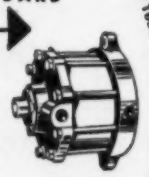
For more details circle NED-805 F3 on enclosed inquiry slip

LOGAN AIR AND HYDRAULIC POWER
SPEEDS • COORDINATES • REFINES PRODUCTION
IN OVER 10,000 INDUSTRIAL PLANTS

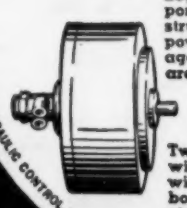
AIR CYLINDERS • AIR-DRAULIC CYLINDERS • AIR and HYDRAULIC PRESSES • COLLET GRIP TUBE FITTINGS • SURE-FLOW COOLANT PUMPS • HYDRAULIC POWER UNITS • HYDRAULIC CYLINDERS • HYDRAULIC CONTROL VALVES • AIR CHUCKS • AIR CONTROL VALVES

Logan
ROTATING AND NONROTATING AIR CYLINDERS

NONROTATING—7 STANDARD MOUNTING TYPES



Standard sizes from 1½" to 16" bore; maximum stroke, 18'. Special models to meet your requirements. Logan features larger ports, sturdier construction, maximum power without leakage, permanent seal around piston rod.



ROTATING

Two standard styles—Type R with cast iron body; Type K with lightweight aluminum body. Bore 1½" to 20" stroke 1" to 2". Longer strokes special.

SAVES TIME Logan AIR AND HYDRAULIC EQUIPMENT SPORT-MOTION

LOGAN MANUFACTURES 6,975 STANDARD CATALOGED ITEMS • CATALOG ON REQUEST
Consult Logan for your Special Heavy-Duty, Mill-Type Cylinder requirements.

LOGANSPORT MACHINE CO., INC.
808 Center Avenue Logansport, Indiana

For more details circle NED-806 F3 on enclosed inquiry slip

Cut Wiring Time
WITH
'DIAMOND H'
Heater and Motor Rated Rotary Switches

Simplest and fastest method yet devised for wiring up a switch provides instant, automatic, positive connection . . . without binding screws, extra clips or other gadgets. Push the stripped end of your standard wire, solid or stranded, into auto-lock connection of Series 850 Rotary Switches and wire is gripped firmly. Depressing small lever gives instant release.

Compact design permits close cluster or in-line assemblies. Standard, heavy horsepower rating available in off-on, 3-heat, 5-heat, 7-heat, 9-heat and special circuits with one-hole, two-hole or special mounting arrangements. Patent pending. UL Approved. Ruggedly built to give extra-long service. Send us your requirements today. *UL Approved*

THE HART MANUFACTURING COMPANY
204 Bartholomew Ave., Hartford, Conn.

For more details circle NED-807 F3 on enclosed inquiry slip

Direct Shipments
Manufacturer-to-You
(no middleman)
from strategically located warehouses

The economies of selling direct-to-you are reflected in the quality of Fuller Brush products. And that quality is matched by localized delivery service — from regional warehouses that we take pride in keeping completely stocked.

Look in the Yellow Pages of your telephone book for the Industrial Representative in your territory.

Call him today and learn about Fuller Brush service for yourself.

INDUSTRIAL Fuller BRUSH CO. DIVISION
3530 MAIN STREET • HARTFORD 2, CONN.
Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

For more details circle NED-808 F3 on enclosed inquiry slip

Introducing . . .
NEW CDF
CONSTANT-TORQUE
SPIRAL TUBING
Grade 5

Available in lengths up to 14" to take .248" to .250" core, either 28 or 32 threads per 1".

Here is the most recent C-D-F development in kraft paper, spirally wound tubing for coil forms using threaded iron tuning cores. After the tuning core is inserted and finally adjusted, *the same stable torque rating is maintained at all times*—regardless of the number of adjustments. Exact threading (every thread) features 3-point contact with core, preventing binding and permitting positive tuning and re-tuning. There is no breakthrough of outer surface due to weak spots. Cement leakage through wall of tube to the tuning core is prevented. Constant torque tubing, and standard tubing (every other thread), are custom-fabricated in C-D-F plants to meet a variety of requirements as to shape, torque, etc.

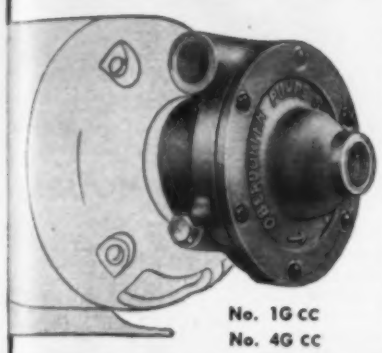
Samples of C-D-F Spiral Tubing will be sent on request, together with Technical Folder ST-53 which describes a number of other grades of Spiral Tubing.

THE NAME TO REMEMBER . . . CDF SPIRAL TUBING

Continental-Diamond Fibre Company
NEWARK 30, DELAWARE

For more details circle NED-809 F3 on enclosed inquiry slip

Close coupled, centrifugal, motor driven
OBERDORFER BRONZE PUMPS



No. 1G CC
No. 4G CC

1G cc is complete motor-pump unit with 1/12 H.P., 3450 RPM, 110 volt, A.C. ball bearing thermal overload motor. Motor frame Nema 42 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

4G cc is complete motor-pump unit with 1/3 H.P., 3450 RPM, 110 volt, A.C. thermal overload motor. Motor frame Nema 56 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

OVERALL DIMENSIONS—Motor and Pump Unit

Pump No.	Height	Width	Length	Suction	Discharge
1G cc	5"	4¾"	9"	⅜ N.P.T.	⅜ N.P.T.
4G cc	6⅝"	6 5/16"	11¼"	¾ N.P.T.	½ N.P.T.

CAPACITIES—Gal. per min. —3450 RPM - Foot Water Head

Ft. Water	0	5	10	15	20	25	30	35
1G cc	7	6½	5	4	1½	—	—	—
4G cc	23	22	20	18	15	12	8	2

See our catalog in Sweet's PRODUCT DESIGN File

Oberdorfer Foundries, Inc., Ind. Pump Div.
236 Thompson Rd. Syracuse, N. Y.

For more details circle NED-810 F3 on enclosed inquiry slip

for all stud threads and stainless steel applications . . .
LEADING INDUSTRIALS
now standardize on

√ speeds up dis-assembly time!
√ prevents stud breakage!
√ eliminates pitting of stainless steel!

Stud breakage, long an expensive maintenance problem has been solved by the leading industrials who have standardized on Fel-Pro C-5 "Hi-Temp" as an anti-seize coating for all stud threads and stainless applications.

NO MORE FROZEN OR GALLED STUDS EVEN AT 1800° F

Fel-Pro's exclusive Colloidal-Copper formula allows for easy separation and reduces stud breakage of threaded assemblies after long exposure to extreme temperatures. It eliminates galvanic pitting of stainless and alloy steel even where dissimilar metals are joined.

Conduct your own tests with C-5 "Hi-Temp" at our expense. See how it can lick your toughest thread breakage problems . . . Write for FREE Sample and complete data sheet TODAY!

FELT PRODUCTS MFG. CO.
1510 Carroll Ave., Chicago 7, Illinois

For more details circle NED-811 F3 on enclosed inquiry slip

VALUABLE

Condensed Technical Data on Microstructure, Critical Points, Effect of Alloy Elements, Forging, Machining, Welding, Thermal Treatment of . . .

B & W ALLOY STEEL TUBING
FOR MECHANICAL USES

Medium-Carbon Grades • Technical Data Card 141
Low-Carbon Grades • Technical Data Card 149

TA—1745 (LM) WRITE TODAY!

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

For more details circle NED-812 F3 on enclosed inquiry slip

New Processes & Materials

RUBBER FLOORING
is durable and resilient

Relief from foot fatigue is offered by this permanent multipurpose all-rubber flooring which is 5/16-in. thick and comprised of a resilient bottom layer and wear resistant top layer. Flooring has seen wide use in golf locker rooms and is now offered for various industrial applications. It does not require cementing to the floor and will not buckle or crawl. Choice of green, sand, terra-cotta and black colors is given in 24, 30, 36 and 57-in. widths and up to 29-ft lengths. Made by **Henry Westall Co.**, Rubber Flooring Div., 950 Merrimon Ave., Asheville, N. C.

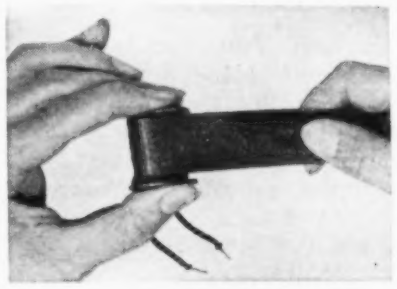
For more details circle NED-813 F3 on enclosed inquiry slip

PHENOLIC COMPOUNDS
for molding are high impact type

Good molding performance, fast cure, good surface and electrical properties and stability in storage are attributes of series of high impact phenolic molding compounds. Three types are offered: PM-88502 natural and PM-88512 black, with an impact of 0.6 to 1.0 ft-lb per inch of notch; PM-88500 natural and PM-88510 black with impact of 1.0 to 2.0 ft-lb per inch of notch; and PM-88501 natural and PM-88511 black with an impact of 2.0 to 3.0 ft-lb per inch of notch. Made by **Synvar Corp.**, 417 E. Front St., Wilmington 99, Del.

For more details circle NED-814 F3 on enclosed inquiry slip

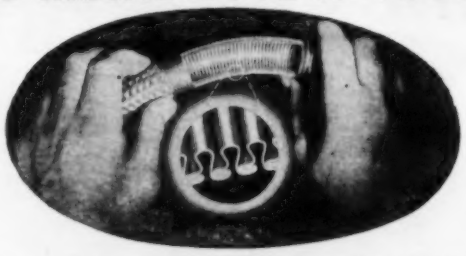
ELECTRICAL TAPE
heat-cures into permanent bond



Designed for wrapping motor and generator coils, and magnetic and transformer windings, Permacel 2-in-1 electrical tape sticks at a touch and heat-cures into a permanent bond. It does not soften up or come loose, slip or slide, either during varnish baking or in finish product form. All-around electrical properties are excellent. Tape cures in 1 hour at 300° F and in 2 hours at 250° F. Backings can be paper, cloth, film or acetate fiber. Made by **Industrial Tape Corp.**, Dept. R, New Brunswick, N. J.

For more details circle NED-815 F3 on enclosed inquiry slip

WHICH OF 1001 USES FOR THIS METAL HOSE IS YOURS?



Are you overlooking an opportunity to improve the performance, life, or salability of your equipment with metal hose?

Yours may be one of the hundreds of undiscovered uses for metal hose—especially for flexible, pressure-tight TITEFLEX® Metal Hose.

The special construction of Titeflex, and the variety of alloys, sizes, and fitted lengths enable you to combat severe temperature, pressure, and corrosion conditions where a flexible connection is necessary.

For maximum results, ask us for design suggestions and help in hose selection.

Titeflex
Let Our Family of Products Help Yours

MAIL COUPON TODAY
TITEFLEX, INC.
507 Frelinghuysen Ave., Newark 5, N.J.
Please send me information about Titeflex Metal Hose and its applications.
NAME
TITLE
COMPANY
ADDRESS
CITY ZONE STATE

For more details circle NED-816 F3 on enclosed inquiry slip

Do you use barrier wraps?
Then you need the new
DERBY BW
BARRIER WRAP MEASURING DISPENSERS

The Derby BW Dispensers eliminate the slow, messy, expensive Barrier Wrap handling problem and provide a substantial saving in time, labor and material. Large rolls may be converted into the exact widths and lengths desired in one single operation.

For further information write Dept. NED

Available in models to accommodate 4", 6", 8", 12" and 14" rolls and equipped with Universal Slitter to deliver a variety of desired widths and definite lengths.

DERBY SEALERS, INC. DERBY, CONNECTICUT

For more details circle NED-817 F3 on enclosed inquiry slip

HARD-HITTING! RUGGED! COMPACT!
"Super Slugger"
The Electric Hammer With The Neoprene "Cushion-Snap"—
NO KICK!

7½ LBS.
LIGHT-WEIGHT
HEAVY-DUTY

NEW TYPE HAMMER
Delivers "Terrific Wallop"!

CHECK THESE ADVANTAGES—

New method of impact motion ✓ Hard hitting, powerful blow ✓ No kick on armature or operator ✓ Rugged, finest materials ✓ Dependable performance ✓ Compact, fits tight places ✓ Light weight — one hand operation ✓ Portable-plug in anywhere (A.C. or D.C.) ✓ Adaptable — with tools for every kind of work ✓ Easy maintenance, simple lubrication ✓ Keeps cool with built-in fan ✓ Power head can be rotated 180° ✓ Low in cost — can save time, trouble, money for you!

DOES HUNDREDS OF DIFFERENT JOBS

Drills Concrete • Drills Masonry • Cuts Sheet Metal • Chips or Channels Concrete or Metal • Cleans Mortar Joints • Scales Rust • Strips Old Flooring • Caulks Soil Pipe • Cleans and Peens Welded Joints

Write FOR CATALOG
On "Super Slugger" and Line of Tools
Manufactured by Noble & Stanton, Inc., Bedford, Ohio

TEMPO PRODUCTS CO.
2075 E. 65th ST. • CLEVELAND 3, OHIO

☐ Please Send Catalog, Prices and Complete Data
☐ Please Arrange Demonstration of Super Slugger
NAME TITLE
COMPANY
STREET
CITY STATE

Dealers—Write for Information

For more details circle NED-818 F3 on enclosed inquiry slip

New! Revolutionary!

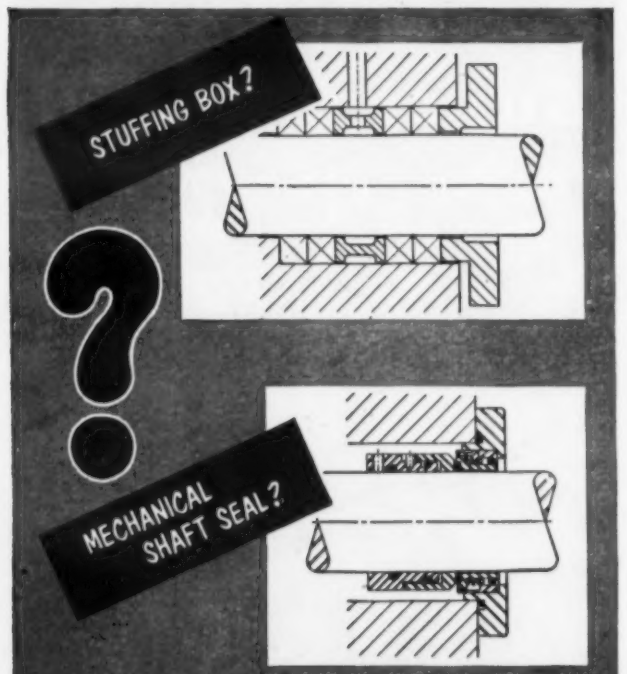
OVERLOAD RELEASE CLUTCH
WORKS *Instantaneously!*

- Instantaneous trigger action
- Works consistently within very close limits
- Your machine will resume operation at exact cycle point of release
- A safety device of universal, industrial application, easily installed on sprocket, chain, belt or gear drives
- Can be used over a wide range of speeds and shaft sizes

Catalog on Request

Overload Release Clutch Co., Inc. 1162 Stuyvesant Ave. Irvington, N. J.

For more details circle NED-819 F3 on enclosed inquiry slip



MAKE IT A MECHANICAL SHAFT SEAL

- For sealing pressure differentials—high or low
- For sealing to prevent loss of valuable products
- For sealing shafts in inaccessible locations
- For sealing inflammable or explosive fluids
- For sealing shafts where there is not enough space for a stuffing box
- For sealing shafts which must operate for long periods of time without attention or maintenance
- To eliminate shaft wear at the point of sealing

MAKE IT SEALOL...

. . . the compact rotary seal with the patented balanced-pressure design. Let us put our years of shaft sealing experience to work on your problem — whether it's sealing a pump, hydraulic motor, gas turbine, main shaft, gear box, or any rotating shaft. Send blueprints and job description to Sealol Corporation, 45 Willard Ave., Providence 5, R. I.

CHICAGO • CLEVELAND • LOS ANGELES • PHILADELPHIA
(In Canada: Lyman Tube & Bearings, Ltd., Montreal, Toronto, Winnipeg)

SEALOL
The Balanced Pressure Seal

For more details circle NED-820 F3 on enclosed inquiry slip

New Literature & Catalogs

Effective Sales Control Records

Remington Rand Inc.—"How To Increase Profitable Sales" is a comprehensive 26-page booklet on effective sales control records and other sales management procedures for all types of businesses. It covers record keeping systems that provide a control by customer, prospect, salesman and territory; summary record and photographic method of furnishing account details; and use of modern office machines in sales analysis statistics compilation.

For more details circle NED-821 F3 on enclosed inquiry slip

Polyester Resins

General Electric Co., Chemical Div.—In 24 pages, bulletin entitled "G-E Polyester Resins" discusses the catalysts, fillers and pigments used with these resins and describes principal fabricating methods. Besides data on industrial applications, over 20 tables and charts are included on properties together with a partial list of suppliers of glass materials, fillers, catalysts, pigments and parting agents required for reinforced plastics.

For more details circle NED-822 F3 on enclosed inquiry slip

Corrosion-Resistant Fastenings

H. M. Harper Co.—Pocket-size accordion-type folder provides a quick easy reference for selection of nonferrous or stainless steel fasteners. Available metals and bolt sizes, nuts, screws, rivets, washers and specials are included.

For more details circle NED-823 F3 on enclosed inquiry slip

Anhydrous Ammonia Valves

Henry Valve Co.—Line of anhydrous ammonia valves and steel fittings for soil fertilization and industrial equipment is cataloged in illustrated 16-page brochure 801. Valve bodies can be made of forged steel or steel bar stock, cadmium plated to resist rust or from painted gray iron to conform to ASTM specifications.

For more details circle NED-824 F3 on enclosed inquiry slip

Centrifugal Fans

Westinghouse Electric Corp., Sturtevant Div.—Centrifugal fans with airfoil shape blades are subject of 8-page illustrated booklet 1320. Designed for mechanical draft, high velocity air conditioning systems and heavy duty industrial applications, they have their construction features, pressures, speeds and volumes detailed.

For more details circle NED-825 F3 on enclosed inquiry slip

How to Operate a Crane

Electric Controller & Mfg. Co.—48-page booklet No. 920 gives very complete instructions on crane operating. Practical text is supplemented with 70 illustrations, and is helpful to the beginner as well as the seasoned operator. Includes safety rules and inspection guide for daily report.

For more details circle NED-826 F3 on enclosed inquiry slip

NOW! AN IMPROVED LOW COST CASTER
with Hardened Raceways Unbreakable Fork and Top Plate

SERVICE PRESSWELD CASTERS
STRONG! AGILE! QUIET!

Here, at last, is a truly efficient, light-weight caster in the low-cost field. Ideal for Dollies, Racks, Box Trucks and similar applications in the moderate capacity range. Many features usually found only in high price casters provide for years of trouble-free performance. Get PressWelds — and get SERVICE quality at low cost.

Write for sizes, capacities and low prices

INDOORMILES Made EASIER and SAFER
SERVICE CASTER & TRUCK CORP.
Executive Offices: Albion, Michigan
Plants at Albion, Michigan & Somerville 43, Mass.

See your Classified Telephone Directory for Nearest Distributor

For more details circle NED-827 F3 on enclosed inquiry slip

Cleans 12 miles of aisles in 6 HOURS!

The new Multi-Clean Motorized Sweeper can be a time and money saver for you just as it is for this large paper products plant. These 8 ft. warehouse aisles, the factory floors, sidewalks, alleys and freight docks are all cleaned in a fraction of the time formerly required by the old fashioned push broom method. Powered by a gasoline engine, the sweeper combines a Palmyra filled rotary sweeping brush 36 inches long and a powerful built-in vacuum unit. With side brush attachment sweeping width is increased to 4 feet.

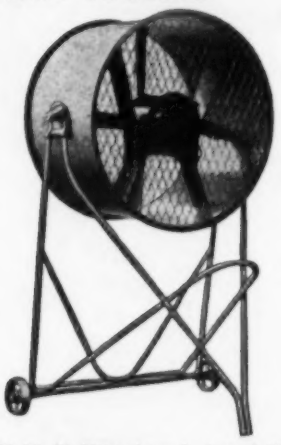
Took 3 men with push brooms 8 hours to do the job.

Picks up dirt, dust, steel shavings, paper, grass, small metal parts and milling debris. The Sweeper's trouble-free service, easy operation and low price make it the best buy in the motorized sweeper field. For more information write→

MULTI-CLEAN®
2277 Ford Parkway, Dept. NE-6 St. Paul 1, Minn.

For more details circle NED-828 F3 on enclosed inquiry slip

ADD COMFORT . . . SPEED PRODUCTION
with Aerovent FAN FANS
MAN COOLING



Keep your employees cool for more efficient work. Aerovent "Macheta" airfoil fans are efficient and economical.

Certified Ratings PFMA

Model 39 Mancooler — 2, 4 or 6 blade Sizes 24" to 48"
Other Models: Direct Connected, Extended Shaft, Duct Type, Belt Driven, Pulley Drive. Sizes 12" to 144".

WRITE TODAY FOR ENGINEERING BULLETIN
AEROVENT FAN CO., Inc.
Ash & Brown Streets, Piqua, Ohio
Competent Sales Engineers in Principal Cities

For more details circle NED-829 F3 on enclosed inquiry slip

OPW AUTOMATIC SHUT-OFF NOZZLES

MORE THAN 100,000 OWNERS AND USERS PROVE THESE FACTS:

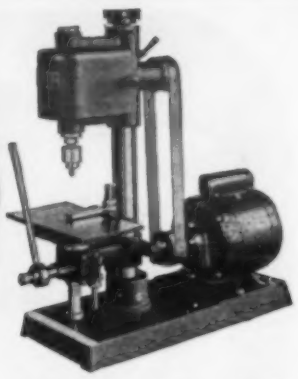
- POSITIVE SHUT OFF
- NO OVERFLOW AT TOP DISCHARGE
- ELIMINATES FIRE HAZARDS AND PRODUCT LOSS
- LIGHTER BECAUSE OF ALUMINUM CONSTRUCTION
- CAN BE USED BY ANY INEXPERIENCED OPERATOR
- MINIMUM MAINTENANCE
- LEAKPROOF
- DURABLE

No. 1190
No. 1811

OPW CORPORATION
2735 Colerain Ave. Cincinnati 25, Ohio

For more details circle NED-830 F3 on enclosed inquiry slip

THIS TAPPING MACHINE IS UNIQUE IN THE FIELD OF SMALL HOLE PRECISION TAPPING



TAPPING CAPACITY
From the smallest and finest tap up to 10-32 inclusive.

SPINDLE SPEEDS
1200 to 2600 R.P.M.

CLEARANCE
Taps to the center of 6½"

HAMILTON® TAPPING MACHINE
SUPER SENSITIVE
SUPER ACCURATE

• Spindle idles in reverse.
Changes direction of rotation automatically as pressure is applied to tap. Withdraws tap instantly and automatically when pressure is released.

REDUCE TAP BREAKAGE REDUCE SCRAP WRITE FOR FREE BULLETIN T-5313.

THE Hamilton TOOL COMPANY
901 HANOVER STREET • HAMILTON, OHIO • U • S • A

For more details circle NED-831 F3 on enclosed inquiry slip

NYLON CABLE HANGER . . . high-strength clip resists temperature extremes, chemicals

Eleven standard diameter sizes accommodate single cables or bundles from 3/16" to 2". Several sizes have two or three-hole tongues, to permit diameter adjustment in installation.

Combining the best features of metal clips with the advantages of nylon, Burndy molded nylon cable hangers weigh 70% less than metal cable clips of comparable size, yet have sustained loads of more than 300 lbs., in the larger sizes. Extremely flexible, these nylon cable hangers are preformed, for ease of installation, requiring no shaping or forming on the job and retaining their shape permanently. Resistant to sustained temperatures from −60°F to 250°F, these cable hangers are also unaffected by oils, gasoline, alcohol, or hydraulic fluid. An insulator itself, this type of cable hanger cannot cause grounds or short circuits and is free from hysteresis losses. Smooth, rounded-edge, non-abrasive surfaces facilitate installation and prevent injury to insulation.

For information on Burndy nylon cable hangers, write Department D, BURNDY, Norwalk, Connect.

83-7

For more details circle NED-832 F3 on enclosed inquiry slip

Protects AIR TOOLS AND EQUIPMENT

against rust, scale and condensation in the air line . . . provides constant lubrication

The Keller Lubricator-Filter operates automatically when air tools or equipment are in operation. Filter removes moisture as well as solids—easily cleaned by opening drain cock at bottom. Oil feeds from the lubricator through an upright wick—no flooding or waste when tools are not in use.

Transparent bowls show when filter needs draining, or when light spindle oil should be added to lubricator. Write for descriptive Bulletin #65-5.

Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
GRAND HAVEN, MICHIGAN

For more details circle NED-833 F3 on enclosed inquiry slip

New Processes & Materials

THREE-WAY CLEANER disinfects, cleans and deodorizes

Requiring only one operation, DCD-35 cleaner concentrate saves time, labor and storage space. The one product disinfects, cleans and deodorizes. It is diluted one part of concentrate to 30 parts of water. Disinfectant quality is retained even when mixed with soaps, and the germicidal action continues for some time after application if surface is not rinsed. Cleaning action is due to blended soaps. It also kills and prevents the growth of those bacteria and molds that cause unpleasant odors. Use can be on any washable surface. Made by **James Good Co.**, Dept. N, Susquehanna Ave. & Martha St., Philadelphia 25, Pa.

For more details circle NED-834 F3 on enclosed inquiry slip

BLACKENING COMPOUND effective with ferrous metals

Quickly and easily producing a nonfading black finish on ferrous metals, compound 3-0 is particularly effective for stainless steels. Maximum temperature required in processing is 240° F, and the compound is supplied in salt form which may be mixed as required. Made by **Du-Lite Chemical Corp.**, 1000 River Rd., Middletown, Conn.

For more details circle NED-835 F3 on enclosed inquiry slip

ELECTRICAL TAPE transparent type with high strength

Scotch No. 5 transparent electrical tape, only 3 mils thick, has a polyester film backing made from Mylar and a pressure-sensitive, heat resistant electrical grade adhesive. Tape is stable under temperatures up to 125° C and is designed for use in fine wire coils, transformers and miniature electric components. It resists acids, alkalies and many common solvents, has a tensile strength of 35 lb per inch of width, stretches to 150 per cent of length before breaking and has a dielectric strength of 5500 v. Rolls are 72 yd long and from ¼ to 1 in. wide. Made by **Minnesota Mining & Mfg. Co.**, Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

For more details circle NED-836 F3 on enclosed inquiry slip

FEDERAL DIAL FEED PRESSES
28 YEARS OF QUALITY CONSTRUCTION

Equal in output— to several standard presses!

Often you will find a *single* Federal Dial Feed doing the work of three to five standard presses! Automatic loading and ejector mechanisms provide still further economies. Rugged, precision-built Federals are setting new highs in faster, safer, precision work—cutting down-time, reducing accidents, eliminating more expensive equipment. Finest materials and workmanship. Six to 80 tons.

No. 7 Dial Feed Capacity, 80 tons

Write for catalog!

THE FEDERAL PRESS COMPANY, 506 DIVISION ST., ELKHART, INDIANA

For more details circle NED-837 F3 on enclosed inquiry slip

Shelf Adjustment is 60% faster with Equipto Iron-Grip® Steel Shelving

Iron-Grip Steel Shelving permits instant adjustment of shelves on 1½" centers — entirely from front — without moving the unit. This enables user to quickly and easily adapt the shelving to changing storage needs. Each shelving unit is complete in itself . . . may be moved without disturbing remainder of assembly.

Equipto Iron-Grip Shelving is immediately available from stock in all sizes, either open or closed, with or without dividers, bin fronts, drawers, or label holders. See your Equipto distributor or write for free catalog.

Exclusive Stud eliminates nuts, bolts and tools

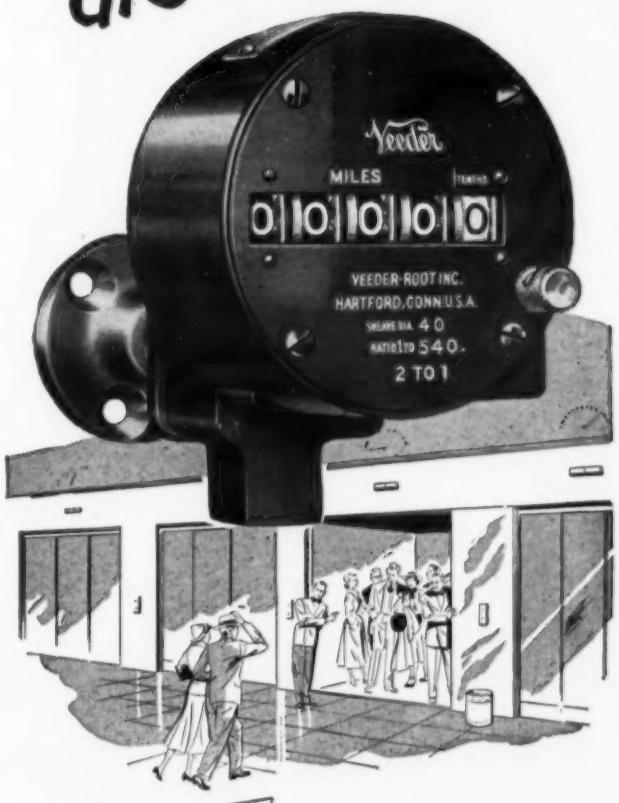
A slope in the keyhole joins with the taper on the stud to form the tightest and strongest of grips. An exclusive Equipto feature.

® Patent Pending

Equipto AURORA, ILLINOIS
Division of Aurora Equipment Co.
690 Prairie Avenue, Aurora, Illinois
Steel Shelving . . . Parts Bins . . . Drawer Units

For more details circle NED-838 F3 on enclosed inquiry slip

It counts your "UPS and DOWNS"



Added Evidence that Everyone Can Count on VEEDER-ROOT

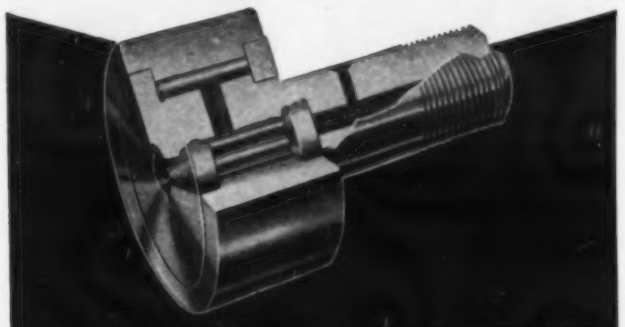
Elevator Mileage Recorders give accurate figures on vertical miles . . . so that it can be plainly seen...*in advance*...when it's time to replace cables, overhaul cars, motors, and what have *you . . . including your life.*

Yes, the V-R wheelmark monogram protects millions of people daily, from the depths of the sea to the stratosphere. Of course, not all V-R Products and services are available nowadays . . . but if your work counts importantly in defense, then you can count on Veeder-Root to help you, as soon as rush commitments permit.

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONN.

For more details circle NED-839 F3 on enclosed inquiry slip

Improve Performance
of cam action with MULTIROL®
Cam Follower Bearings



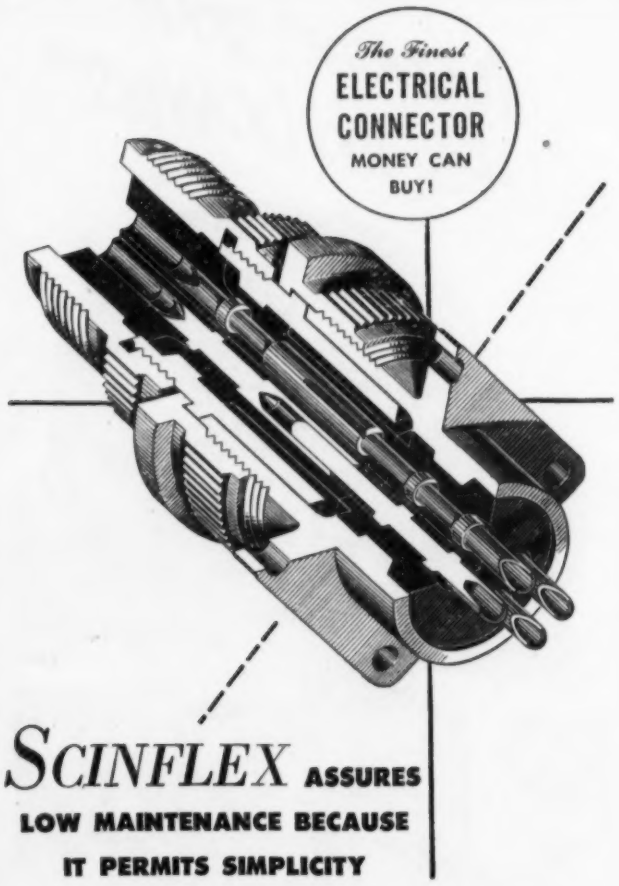
Multirol CF Series Bearings are designed especially to insure greater precision performance in any cam actioned bearing application. They are built to provide the ultimate in radial capacity, shock resistance, space economy and longer bearing life.

Send for McGill Catalog No. 52

McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 101 N. LAFAYETTE ST. VALPARAISO, INDIANA

▲ For more details circle NED-840 F3 on enclosed inquiry slip ▲



SCINFLEX ASSURES
LOW MAINTENANCE BECAUSE
IT PERMITS SIMPLICITY

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX
ELECTRICAL CONNECTORS

Bendix

SCINTILLA MAGNETO DIVISION of Bendix Aviation Corporation
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.
FACTORY BRANCH OFFICES: 118 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California

▲ For more details circle NED-841 F3 on enclosed inquiry slip ▲

New Literature & Catalogs

Hydraulic Cylinders

Vickers Inc. — Up-to-date information, specifications and engineering data on complete line of hydraulic cylinders for industrial machinery are found in 32-page illustrated bulletin No. 52-55. Liberal use is made of dimensional drawings.

▲ For more details circle NED-842 F3 on enclosed inquiry slip ▲

Liquid Phenolic Casting Resin

Durez Plastics & Chemicals, Inc.—Liquid phenolic casting resin as used for short run production, model or prototype work, foundry patterns, jigs and fixtures, electroplating shields, large part production and special electrical and corrosion resistant parts is discussed in 16-page illustrated bulletin. Data on patterns, mold making and preparation, gravity and centrifugal casting, possible use of fillers and use of inserts are included.

▲ For more details circle NED-843 F3 on enclosed inquiry slip ▲

Silver Brazing Preforms

Lucas-Milhaupt Engineering Co.—"The Path to Better Brazing" is an 8-page brochure that relates how silver brazing preforms can end wasted time spent in plating solder in position for brazing, speed assembly work, eliminate rejects and meter solder to flow evenly into and around joints. Alloys available, brazing steps and hints and specifications are included.

▲ For more details circle NED-844 F3 on enclosed inquiry slip ▲

Handcuffing Man-Hour Thieves

Towmotor Corp.—"How to Use Handcuffs Where They'll do the Most Good" is not a policeman's instruction manual but a 16-page illustrated bulletin (DM53-1) that describes a planned method for ferreting out the places where man-hour thieves operate. It is a method of analyzing the handling operations in your plant, and then seeing what equipment can increase handling efficiency.

▲ For more details circle NED-845 F3 on enclosed inquiry slip ▲

Pneumatic Handling

Yeomans Brothers Co. — Problem-solution-result reports covering a variety of waste handling installations are found in 8-page illustrated bulletin 4501 on Transporter pneumatic handling systems. Designed around the pneumatic ejector, the systems are used primarily for handling heavy materials that are not handleable by pump or conveyor.

▲ For more details circle NED-846 F3 on enclosed inquiry slip ▲

Bronze Products

American Crucible Products Co.—Bronze bushings, bearing, bar stock and babbitt metal are subject of 12-page illustrated brochure. It includes descriptions of the various metals and much technical data, such as running clearances, fits, lubrication, oil grooves and chemical and physical properties.

▲ For more details circle NED-847 F3 on enclosed inquiry slip ▲

For rubber, paper, plastics, textiles, metals, foils . . .

Need to wind coils of steel strip that weigh 100,000 lbs.?—handle scrim or tissue as delicate as a cobweb? Need to move materials loaded with lint, dust, clay or tar?—with runouts of an inch in every lap? Askania Edge Position Control takes all these tough problems in stride, and the easy ones too. It's a simple, versatile, non-contact control—all that touches the web is a breath of air. It's powerful, dependable, and easy to maintain—its control range is limited only by your own equipment.

If you work with rubber, plastics, foils, papers, textiles, or metals—if it's handled in webs it can be handled better with Askania Edge Position Control! Let Askania specialists help analyze your web-guiding problems. Write for Bulletin 141.

ASKANIA REGULATOR COMPANY
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Subsidiary of General Precision Equipment Corp.

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This NEW Book . . .

tells you how to . . .
• INCREASE PRODUCTION
• LOWER COST PER PIECE
• WORK TO CLOSER TOLERANCES

60-page GUIDEBOOK tells how to get better surface grinding results . . . how to grind various materials . . . how to select the right abrasive disc for the job . . . how to care properly for abrasive discs—PLUS hundreds of operating hints!

Get the most out of your disc grinders. Send for your FREE copy today.

GARDNER MACHINE COMPANY
460 Gardner Street • Beloit, Wis.

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ANGULAR INSPECTION SET-UPS

SEND FOR CATALOG

Now angular inspection set-ups as accurate as the measuring instruments used can be made in a few moments. Any angle, single or compound, is set up by inserting standard gauge blocks between the Sine-Plate plates. Proper size blocks are indicated for all angles in table supplied. Saves hours of set-up time, guarantees accurate inspection. In two sizes; also magnetic models for machining operations.

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Manufacturers of the MAGNA-SINE and Other Precision Tools
5722 TWELFTH ST. • DETROIT 8, MICH.

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For Surface Blemishes in
ALUMINUM CASTINGS

Have you used the Smooth-On Foundry Cement made especially to correct blow holes, porous and rough spots, dents and other unsightly but harmless surface defects in otherwise sound *aluminum alloy castings?*

Applied like the widely used Smooth-On *Iron* Foundry Cement, Smooth-On No. 8 *Aluminum* Cement fills in evenly, hardens quickly, matches perfectly. Stays in place, too, for it expands slightly as it sets.

Smooth-On No. 8 Aluminum Cement comes in 1- and 5-lb. sizes. 1 lb. will fill 17 cu. in. Order it by NAME AND NUMBER from your supply house. If they haven't it, write us. If you have not yet discovered Smooth-On No. 8, ask us for

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No. 8 ALUMINUM CEMENT

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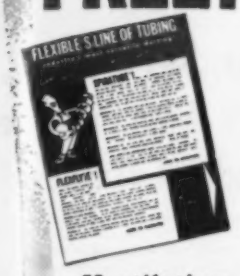
FREE! Every Maintenance Engineer should have this booklet



Illustrated booklet that deals with your problems... how they can be solved quickly and efficiently with this amazing flexible ducting. Ventilation, dust removal, materials handling... whatever your requirements, FLEXIBLE's line of tubing will meet them better, cost less. And most important, YOU CAN INSTALL FLEXIBLE'S LINE OF TUBING YOURSELF!

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Flexible Tubing CORPORATION

Guilford, Connecticut Pasadena 1, California

For all ducting systems: FLEXFLYTE® SPIRATUBE® AYRTUBE®

For more details circle NED-852 F3 on enclosed inquiry slip

SR-4® DEVICES IN INDUSTRY... USES UNLIMITED

THE PROBLEM: In the static testing of rocket fuel systems, Aberdeen Proving Ground needed a transducer which could respond to the high pressures and frequencies encountered.

THE BALDWIN SOLUTION: To meet this need, Baldwin designed and manufactured 100 special SR-4 Pressure Cells with the necessary high accuracy and high frequency response.

These transducers give Aberdeen these advantages:

1. **High Accuracy**—pressure versus voltage outputs are linear within ¼ of 1% and calibration (span) is held within ½ of 1%.
2. **High Pressures**—capacities up to 20,000 psi.
3. **Limitless Frequency Response**—attached piping or vessel reaches its frequency response limit before the pressure cell reaches its limit.
4. **Versatility**—these SR-4 Pressure Cells are all interchangeable so that they may work into the same instruments. They also work easily into an oscilloscope and can be used to operate a potentiometer.

The uses for Baldwin SR-4 devices in industry are *unlimited* . . . measuring load, pressure or torque more accurately and economically. Wide range of standard capacities. Please write Dept. 3229.

20,000 p.s.i. high frequency pressure cell. Length 5½", diameter 2", weight 1 lb.

TESTING HEADQUARTERS

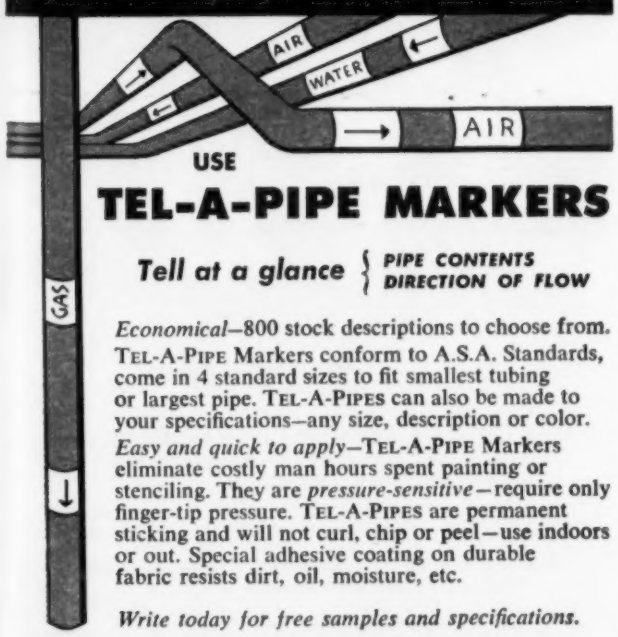
BALDWIN-LIMA-HAMILTON

Philadelphia 42, Pa. • Offices in Principal Cities

For more details circle NED-853 F3 on enclosed inquiry slip

FOR FAST, ECONOMICAL

PIPE IDENTIFICATION



USE

TEL-A-PIPE MARKERS

Tell at a glance { PIPE CONTENTS / DIRECTION OF FLOW

Economical—800 stock descriptions to choose from. TEL-A-PIPE Markers conform to A.S.A. Standards, come in 4 standard sizes to fit smallest tubing or largest pipe. TEL-A-PIPES can also be made to your specifications—any size, description or color.

Easy and quick to apply—TEL-A-PIPE Markers eliminate costly man hours spent painting or stenciling. They are *pressure-sensitive*—require only finger-tip pressure. TEL-A-PIPES are permanent sticking and will not curl, chip or peel—use indoors or out. Special adhesive coating on durable fabric resists dirt, oil, moisture, etc.

Write today for free samples and specifications.

WESTLINE PRODUCTS DIVISION

WESTERN LITHOGRAPH CO.

600 East Second Street, Los Angeles 54, California

For more details circle NED-854 F3 on enclosed inquiry slip

New Processes & Materials

CHAIN LENGTHS
zinc or copper finish

This chain is assembled with regular 2/0 link chain in a 5 ft 6-in. length, and has a 1⅜-in. welded ring at one end and a 3⅝-in. swivel at the other. It is available with either zinc or coppered finish, and can be used for such applications as a trailer safety chain, a boat mooring chain, a bundling chain or a barrier chain. Made by **Cleveland Chain & Mfg. Co.**, Broadway & Chaincraft Rd., Cleveland 5, O.

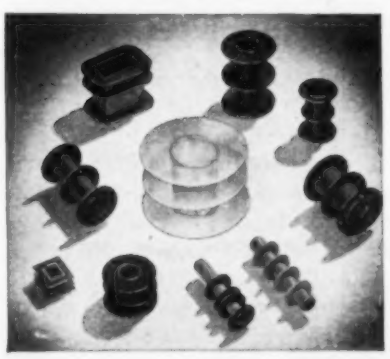
For more details circle NED-855 F3 on enclosed inquiry slip

WRINKLE FINISHES
with good color stability

Resin base eliminates or minimizes the color instability inherent in some wrinkle enamels and makes possible the inclusion of pastel colors and pale shades in the Rinkeloid line of finishes. It is reported that normal variations in baking oven temperature will not result in variation in Rinkeloid color, and that blacks, grays and browns will tolerate as much as 25-degree differences in oven temperature without varying color tones. Made by **Standard-Toch Chemicals, Inc.**, Products Finishes Div., 2610 Richmond Terrace, Staten Island 3, N. Y.

For more details circle NED-856 F3 on enclosed inquiry slip

MULTIFLANGE COIL BOBBINS
in any size, shape and quantity

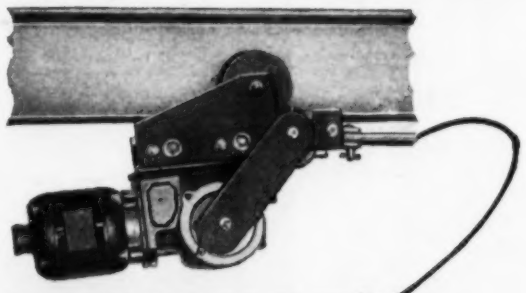


Multiflange coil bobbins for radio frequency and intermediate frequency coils, push-pull solenoids, switching, timing and reversing circuits are now available in any size, shape and quantity. Cores are made from high dielectric kraft, fish paper, acetate and combinations and have good insulation, heat resistant and moisture dissipation characteristics. They can be fitted with flanges to any specification: plain, slotted, punched or fitted with terminal leads—embossed or recessed to fit any type of mounting. Made by **Precision Paper Tube Co.**, 2039 W. Charleston St., Chicago 47, Ill.

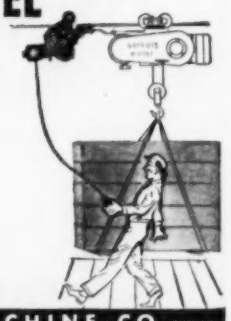
For more details circle NED-857 F3 on enclosed inquiry slip

Simply Add

a Trojan TRACTOR



FOR POWER TRAVEL



The Trojan Tractor quickly converts slow, hand traveled hoists or small cranes and other handling units to fast, power travel; speeds up production. Simple drawbar attachment.

Ask for Trojan Tractor Bulletin 810

DETROIT HOIST & MACHINE CO.

48th year: Designers & Manufacturers Since 1905

8236 Morrow St., Detroit 11, Mich.

For more details circle NED-858 F3 on enclosed inquiry slip

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A Directory of Technical Data Available From Arcos To Help You On Your Welding Jobs

Whether your problem involves welding stainless, low alloy-high tensile, or non-ferrous metals, this handy Directory will tell you quickly the wealth of practical information available from Arcos for your use. Right at your fingertips it places a convenient recap on what Arcos offers, such as: **Application Chart and Weld Metal Analysis on 56 Different Arcos Electrodes; Stainless Electrode Selector For Welding Stainless Steels; ABC's of Welding High Tensile Steels; plus informative charts, electrode data sheets, reprinted articles on welding, technical guides, etc.**

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ARCOS CORPORATION

1500 South 50th Street • Philadelphia 43, Pa.

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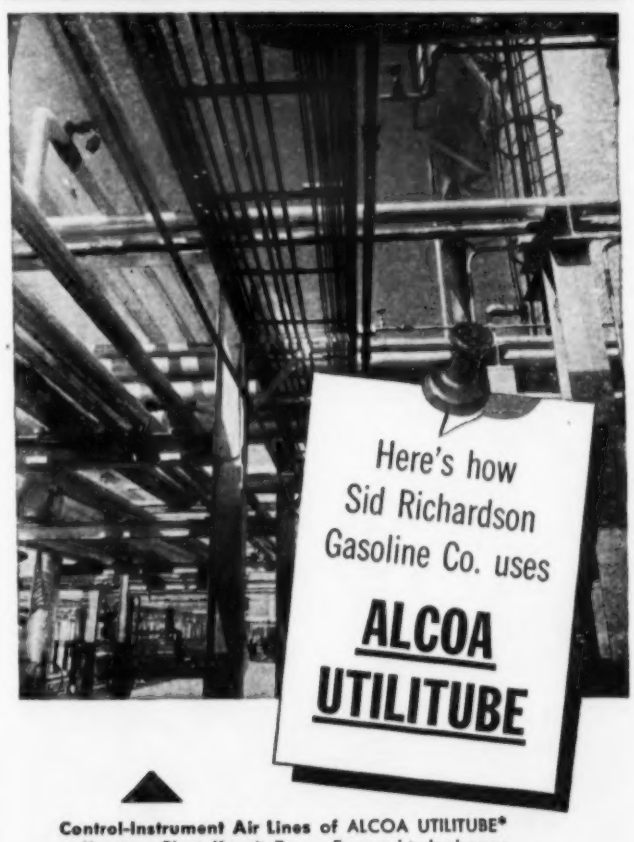

Control-Instrument Air Lines of ALCOA UTILITUBE* at Keystone Plant, Kermit, Texas. Exposed to hydrogen sulfide fumes since installation in 1948, aluminum tubing and fittings have required no maintenance, show no apparent corrosion. Air, dried by Alcoa *Activated Alumina, operates at 80° F and 25 psig.**

ALCOA UTILITUBE is aluminum coiled tube made of a specially selected alloy to provide low cost, easy workability and high fatigue strength.

ALCOA Utilitube offers savings up to 40 per cent over copper . . . has excellent on-the-job forming and flaring properties. It is available in economical, long lengths up to 1,000 feet or more, depending on size. It stands up well under vibration . . . has high resistance to most industrial atmospheres and to many liquids and gases.

In petroleum service, ALCOA Utilitube will not form sludge or gum . . . will not discolor or contaminate the fluid it carries.

ALCOA Utilitube is versatile. Use it for air for pneumatic and hydraulic control circuits and brake lines—gasoline and fuel oil for internal combustion engines—lubricating oils for engines and machines—fluids for hydraulic systems.

For complete details, write for the new booklet: *Alcoa Utilitube.*

ALUMINUM COMPANY OF AMERICA
1002-F Alcoa Building, Pittsburgh 19, Pa.

*Registered Trademark, Aluminum Co. of America

Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA

For more details circle NED-860 F3 on enclosed inquiry slip

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FOR OVER 100 YEARS!

Stock Patterns:

BLACKSMITHS
HORSESHOERS
PLOW MAKERS
SAW MAKERS
CHAIN MAKERS
ANVIL STANDS

EAGLE ANVILS since 1843

Grey Iron and Semi-steel Castings

SPECIAL ANVILS ANY WEIGHT OR SIZE UP TO 700 POUNDS

All anvils meet government specifications for quality tools.

Power tool and die press anvils are available on quotation. Send us your requirements.

Stock anvils come in 17 sizes, in weights from 50 to 700 pounds. Write for price list.

FISHER & NORRIS
"EAGLE" ANVIL WORKS
41 Bloomsbury Street, Trenton, N.J.

For more details circle NED-863 F3 on enclosed inquiry slip

HIGH VACUUM PUMP USERS:

END WATER VAPOR TROUBLE

NRC Rotary Gas Ballast Pump— Model NRC 100M — a 2-stage pump unit

- **Maintains fast pump down time**
- **Eliminates oil reclaiming units**
- **Provides greater capacity under 1 mm Hg**
- **Requires up to 80% less oil charge**
- **Capacities from 1¼ cfm to 400 cfm**
- **Pressures down to 10^{-4} mm Hg**

This is important news for every user of rotary vacuum pumps. At last, an "anti-water-vapor" pump that does not blank off at increasing pressures because it is trying to pump condensable vapors.

Water vapor is no problem to the new National Research Rotary Gas Ballast Pump. It operates on a principle that *prevents* the water vapor from condensing and contaminating the pump oil.

The pump is available in capacities from 1¼ cfm to 400 cfm; pressures down to 10-4 mm Hg; a full line of vane, piston-type and 2-stage pumps.

Send in the coupon today for your copy of the new bulletin that gives a full explanation of the Gas Ballast principle and complete engineering data on the construction and operation of the N R C Rotary Gas Ballast Pumps.

NRC

National Research Corporation
EQUIPMENT DIVISION, *70 Memorial Drive, Cambridge, Mass.*

Send me more facts about the NRC Rotary Gas Ballast Pump ☐ Have your Salesman call ☐

Name_____
Title_____
Company_____
Address_____

For more details circle NED-864 F3 on enclosed inquiry slip

New Literature & Catalogs

Roller Bearings

Torrington Co.—32-page illustrated bulletin 200-C on self-aligning spherical roller bearings is a revised edition of a former bulletin, includes such features as a bearing width tolerance chart, more complete thread, locknut and lockwasher detail and a revised interchangeability and engineering chart. Catalog data on the complete line are given.

For more details circle NED-865 F3 on enclosed inquiry slip

Chock Full of Chucks

Westcott Chuck Co.—All chucks made by this company are described and illustrated in catalog 753. Included are regular duty independent chucks, universal and combination chucks, Hi-Range line of independent chucks and universal chucks, light duty threaded-back chucks, two jawed drill chucks and Casler offset boring heads.

For more details circle NED-866 F3 on enclosed inquiry slip

Forced Draft Heat Exchangers

Fluor Corp.—Forced draft type Fin-Fan heat exchangers designed to cool liquids or gases at pressures up to 5000 psi and temperatures as high as 1500° F get full description in 12-page illustrated bulletin FF-FD-0.001. These air-cooled units can replace or augment water-cooled exchangers in plants requiring dissipation of great heat loads from everyday processes.

For more details circle NED-867 F3 on enclosed inquiry slip

Multi-Slide Machines

U. S. Tool Co.—Bulletin 15 on multi-slide machines for the automatic high-speed production of precision metal stampings from coil stock contains specifications of the four models now being built. Tooling layouts are drawn up, and the bulletin also has a section on available attachments. These machines can often eliminate secondary operations, save time, labor and handling costs.

For more details circle NED-868 F3 on enclosed inquiry slip

Broaches, Bars & Fixtures

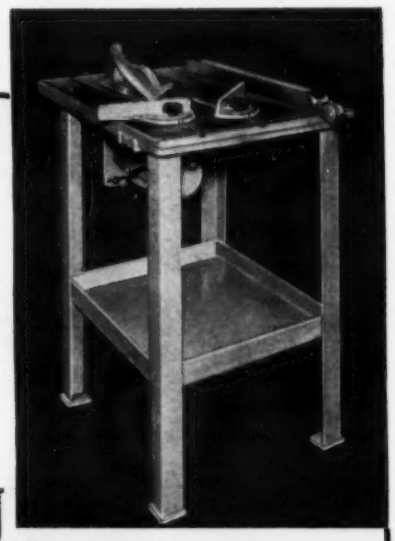
Cleveland Broach, Inc.—Designing, building, sharpening and reconditioning service for broaches, bars and fixtures for jet aircraft and allied industries are subjects of bulletin "Micro-Precision Broaches, Bars and Fixtures."

For more details circle NED-869 F3 on enclosed inquiry slip

Pressure Valves & Controls

Swartwout Co.—Photographs, cutaway drawings, sectional views, dimensional and specification data on line of pressure regulating valves and pressure master controls are contained in 12-page bulletin S-22-CA. Described are diaphragm-operated spring opening and spring-closing regulating valves, pressure controllers, air locks, valve positioners and selector panels.

For more details circle NED-870 F3 on enclosed inquiry slip



New TILTING ARBOR SAW

The King *of Quality*

The new 8 inch Tilting Arbor Saw by H & A is truly "The King of Quality!" Heavy cast iron table. Life sealed ball bearings. Motor *that tilts with the saw*—to assure complete alignment of parts at all times. Here's a saw that is built for continuous use all day long, every day! It's the choice of woodworkers who insist upon *quality*.

WRITE TODAY! Write for FREE literature, name of nearest authorized dealer.

HESTON & ANDERSON
DIVISION OF ST. PAUL FOUNDRY & MFG. CO.
18-4D FAIRFIELD, IOWA

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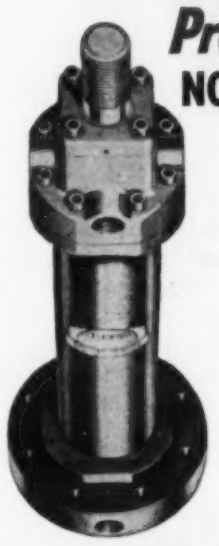

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NOPAK SERIES 1500 High Pressure Hydraulic Cylinders

The successful design, construction and application of high-pressure hydraulic cylinders, under a wide variety of working conditions, is the result of specialized knowledge based on years of experience in the field of high pressure hydraulics, carefully selected materials, special skills and fine workmanship.

Reports from users indicate that NOPAK Series 1500 Hydraulic Cylinders have established new standards of design, precision, construction and performance in the high pressure field. They have been "Proved in Service".

NOPAK Series 1500 High Pressure Hydraulic Cylinders are available in 5 Standard Mountings, in diameters from 1½" to 8", in Adjustable Cushion or Non-Cushion Types.

GALLAND-HENNING NOPAK DIVISION
2755 S. 31st St., Milwaukee 46, Wis.

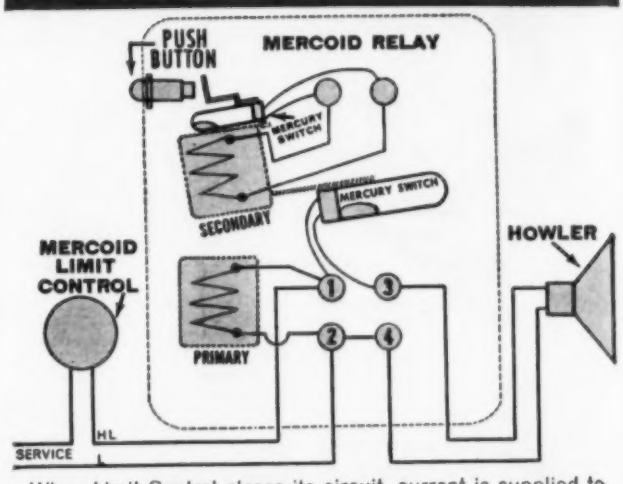
Refer to Sweet's File for Product Designers or write for Bulletins HC-1 and SW-1.

Representatives in Principal Cities

NOPAK
VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE
A 7499-1/9-A

For more details circle NED-872 F3 on enclosed inquiry slip

MERCOID RELAY FOR AUDIBLE ALARM



When Limit Control closes its circuit, current is supplied to primary coil of Mercoid Relay and through the normally closed mercury switch to the "Howler" (alarm). To stop "Howler," operator pushes in "push button" which manually raises relay secondary and breaks circuit to "Howler." Secondary is held up by magnetic repulsion until condition is corrected. When limit control opens the primary circuit of relay, secondary coil drops to normal position and relay is automatically ready for another operation.

WRITE FOR BULLETIN CA-8R

THE MERCOID CORPORATION, 4201 BELMONT AVE., CHICAGO, ILL.

For more details circle NED-873 F3 on enclosed inquiry slip

Photo courtesy Clearing Machine Corp.

TRABON *automatic* lubrication on this Clearing forging press lubricates 36 bearing points while the press operates under full load.

A TRABON trouble-free system on *your* equipment will do the same job efficiently and positively.

Fully hydraulic . . . economical . . . for oil or grease . . . safe . . . completely sealed.

There are more Trabon Automatic Lubrication Systems in use than all other makes!

Write for Bulletin No. 529

Trabon ENGINEERING CORPORATION
Oil and Grease Systems

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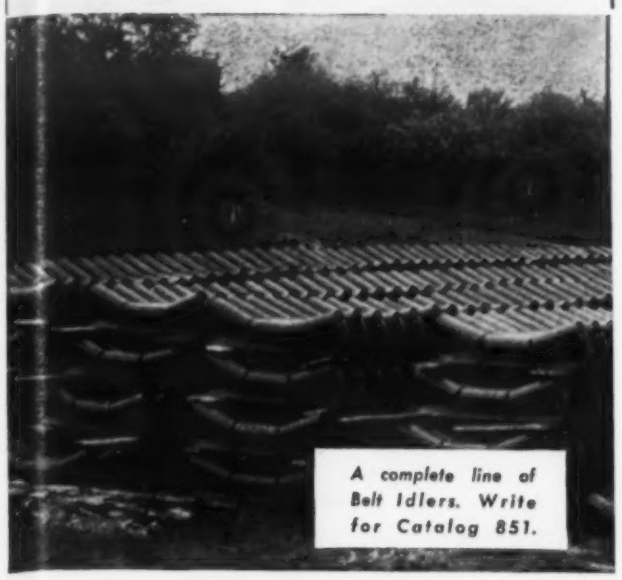
BELT IDLERS



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Columbus 16, Ohio

IF IT'S MINED, PROCESSED OR MOVED ...IT'S A JOB FOR JEFFREY!

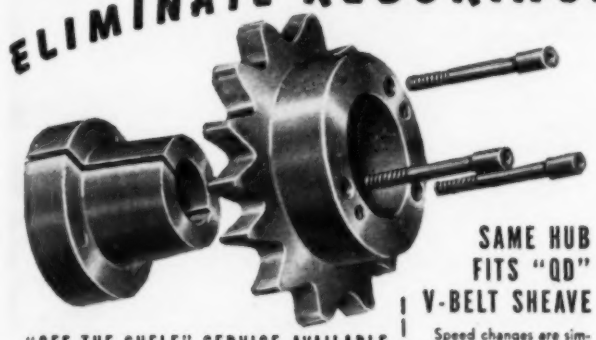
sales offices and distributors in principal cities

For more details circle NED-875 F3 on enclosed inquiry slip

FORT WORTH QD Roller Chain SPROCKETS WITH TAPERED SPLIT HUB

PATENT APPLIED FOR

ELIMINATE REBORING!



SAME HUB FITS "QD" V-BELT SHEAVE

Speed changes are simplified and "spare" sprockets can be carried more easily.

If your favorite distributor doesn't stock this new item, tell him about it. He'll reward you with better service.

"OFF THE SHELF" SERVICE AVAILABLE FROM INDUSTRIAL DISTRIBUTORS

Reboring of stock bore sprockets to fit various shafts is eliminated due to the various bores available in the QD hub. Installation and removal from the shaft is made easy by the tapered fit of the hub and sprocket. Hub assembly grips the shaft equivalent to a "press fit."

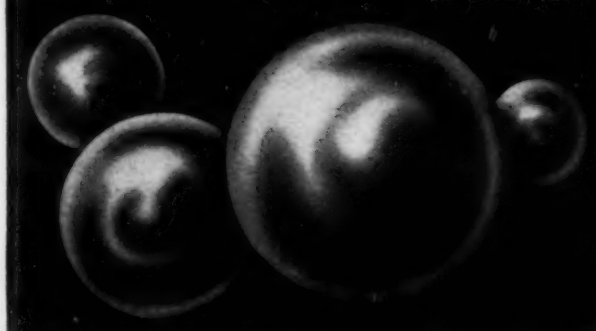
Catalog explaining additional advantages and construction details will be furnished on request.

OTHER FORT WORTH PRODUCTS
V-BELT DRIVES
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

FORT WORTH STEEL AND MACHINERY CO.
Dept. 226, 3600 McCart, Ft. Worth, Tex.

For more details circle NED-876 F3 on enclosed inquiry slip

On the ball for Quality



HOOVER BALLS

steel • brass • bronze
monel-metal
stainless steel

AMERICA'S FOREMOST BALL MANUFACTURER

HOOVER BALL AND BEARING CO.
ANN ARBOR, MICHIGAN

For more details circle NED-877 F3 on enclosed inquiry slip

New Processes & Materials

COLOR CODE PAINT sprays on for identification

Speedy identification marking of all kinds of metal, wood or other materials, stocks and parts is simplified by Color Code paint. Packaged in a spray-type 12-oz can, the paint dries in about 20 minutes, and is available in 12 fast opaque colors. It requires minimum surface preparation, and resists rubbing off and weathering. Made by **Crown Industrial Products Co.**, 713 Amsterdam Ave., Woodstock, Ill.

For more details circle NED-878 F3 on enclosed inquiry slip

TRANSISTOR SOLDERS & FLUXES flux test kit also available

Line of transistor solders and fluxes now available includes Divco No. 335 soldering flux which can be used to solder copper-plated, unplated etched, or unplated, unetched germanium. It contains no ammonium compounds to hasten stress cracking of delicate copper, brass or phosphor-bronze parts. Divco indium and tin wire solders available are alloyed to provide desired electrical characteristics for any application. Other products include Divco Hot-Roz flux for copper printed circuits, etched conductor patterns, etc.; X-25 liquid rosin flux for copper plated germanium; Intense-Rez flux for bonding solder to unplated etched germanium; low toxicity, fire-resistant Divco rosin flux remover; No. 276 high-temperature printed circuit solder; and a soldering flux test kit for flux selection. Made by **Division Lead Co.**, Dept. P-12, 836 W. Kinzie St., Chicago 22, Ill.

For more details circle NED-879 F3 on enclosed inquiry slip

HARD GLOSS FLOOR FINISH for use in heavy traffic areas

Producing a hard high gloss on rubber, asphalt tile and plastic type flooring and a durable bright shine on sealed wood and cork, Hard Gloss Glo-Coat is a maintenance floor finish with high resistance to both scuffing and damp mopping. It is easy to apply and provides good traction. Under normal conditions it dries within 20 minutes after application. Made by **S. C. Johnson & Son, Inc.**, Dept. NED, 1525 Howe St., Racine, Wis.

For more details circle NED-880 F3 on enclosed inquiry slip

S' matter, Swami, won't it work?

Our near-sighted snake charmer friend should know he can get more out of a wire if it has a well soldered connection. Making the right kind of flux core solder for every application has been Kester's sole business for more than 50 years. For top quality solder, your best buy, today as always, is Kester Solder!

DO YOU HAVE the free Kester Technical Manual, "SOLDER and Soldering Technique"? Better write for your copy today!

KESTER SOLDER COMPANY
4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

For more details circle NED-881 F3 on enclosed inquiry slip

Solve Sludge Problem with Nicholson's

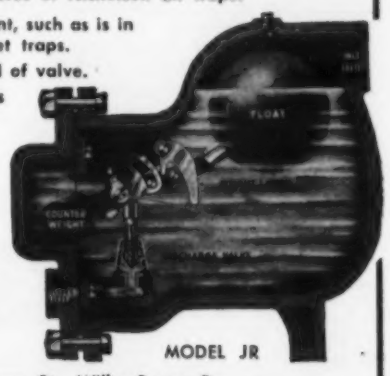
New AIR TRAPS

With the introduction of an exclusive new oil-eliminating feature that prevents build-up of scum and sludge, Nicholson air traps now enable you to enjoy the advantages of the positive intermittent action of a float-operated air trap without the common problem of oil congealing on the mechanism and impeding or stopping its action. Other features of Nicholson air traps:

1) No air-wasting vent, such as is in all inverted bucket traps.
2) Positive water seal of valve.
3) Large orifice keeps valve clean, preventing blow-through.

Three types; pressures to 1500 lbs. For details send for

CATALOG 751



162 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS • VALVES • FLOATS

For more details circle NED-882 F3 on enclosed inquiry slip

WHEN YOU NEED NEW TIRES FOR YOUR LIFT TRUCKS

Call your truck distributor

● When you entrust your lift truck repairs to your truck distributor, you know the finished repair job will be complete and satisfactory. But, how about new tires? Your truck distributor can re-equip your trucks with tires, too! He knows what's best for your trucks . . . that's why he stocks **Monarch Mono-Cushions.** Place all your truck service under one roof . . . let your truck distributor service them from seat . . . to **Monarch Mono-Cushion** tires . . . the tires that keep your trucks steady.

THE MONARCH RUBBER COMPANY
501 LINCOLN PARK
HARTVILLE, OHIO

For more details circle NED-883 F3 on enclosed inquiry slip

"BIG SAVINGS OF LABOR AND MATERIAL"

with portable Greenlee Hydraulic Conduit Bender

Quickly produce your own conduit bends *right on the job*. With a GREENLEE Bender *one man* in but a few minutes makes smooth, *accurate* bends in pipe up to 5", rigid and thin-wall conduit. Many owners report time and labor savings from 50% to 90% . . . and cost of many manufactured bends and fittings completely eliminated. Get facts now on this tool that often pays for itself on the first job.

FREE BENDER BOOKLET with complete data on GREENLEE Benders for pipe, conduit, tubing. Write today, Greenlee Tool Co., 1946 Herbert Ave., Rockford, Illinois.

For more details circle NED-884 F3 on enclosed inquiry slip

NO STICKING

NO JAMMING

NO FREEZING

cochrane
MULTIPORT VALVES

In vapor systems where pressure relief to atmosphere is a must for safety—maximum savings important, Cochrane Multiport Pressure Relief Valves are the answer.

Safer—multiple "vapor cushioned" valve discs instead of one ordinary valve disc insure discharge upon overpressure without freezing, sticking or jamming.

Economical—they discharge only unusable steam. Usable steam is conserved at all times, even during discharge. They require a minimum of maintenance—no maintenance in most cases.

Efficient—no stuffing boxes are used on operating parts hence no friction retards responsiveness.

Free from hammer—they close without "blowdown"—never slam shut to cause hammering or vibration in the line.

Easily adjusted to desired pressure—simply turning the valve handwheel or chainwheel obtains any desired pressure setting in the range zero to maximum. You are able to change quickly to any new back pressure you desire to carry.

Simple, positive operation—when pressure rises above set pressure the vapor cushioned valve discs e-a-s-e open metering off only unusable vapor, then close gently. Abrupt changes are eliminated, equipment always protected.

Write for more facts on how Cochrane Multiport Valves save steam, cut maintenance, provide complete protection in your plant.

cochrane corporation

3143 N. 17th Street, Philadelphia 32, Pa.

For more details circle NED-885 F3 on enclosed inquiry slip

New Literature & Catalogs

Nuclear Instruments

Nuclear Measurements Corp.—Line of radiation detection and counting instruments is detailed in this 24-page illustrated catalog. Emphasis is on proportional counters and proportional counter converters, designed for precise quantitative evaluation or radioactive materials. Application data and detailed specifications are included.

For more details circle NED-886 F3 on enclosed inquiry slip

Rotary Joints & Valves

Anco Inc.—Few operating parts, small space requirements, light weight and little maintenance are features of rotary pressure joint, pressure relief valve and check valve described and illustrated in three bulletins. Applications and cross sectional views are incorporated.

For more details circle NED-887 F3 on enclosed inquiry slip

Electronic Line Regulators

Sorensen & Co.—Information on extensive line of electronic alternating current line regulators and descriptions and specifications of electronic frequency changers are contained in 16-page illustrated catalog 353. Regulators have capacities from 150 va to 15 kva, at nominal 115 or 230 v. Also found in it are electronic regulator circuitry data, uses of regulators and other data.

For more details circle NED-888 F3 on enclosed inquiry slip

Mechanical Pressure Gage

W. C. Dillon & Co.—Compact instrument designed to measure mechanical pressure or compressive loads in limited spaces is subject of 6-page illustrated bulletin PG-2. Device can be used alone or incorporated in special testing devices. Various applications are shown.

For more details circle NED-889 F3 on enclosed inquiry slip

Tap Manual

Threadwell Tap & Die Co.—56-page "Tap Manual" includes the latest Unified and American screw thread information and represents a valuable reference on taps and tapping from terminology to tolerances. It is fully illustrated and contains full tabular and illustrated data, including tables of tolerances and constants.

For more details circle NED-890 F3 on enclosed inquiry slip

Lacquers & Emulsions

Hercules Powder Co.—New developments in emulsifying agents and techniques are described in the 1953 edition of the 12-page booklet "Lacquer Emulsions." A section on emulsion composition includes material on film-formers, resins and plasticizers, solvents and diluents, equipment, techniques and emulsion stability. Remainder of booklet deals with the preparation of emulsions based on nitrocellulose, ethyl cellulose and chlorinated rubber.

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For 30 Years— EXPERTS

SPECIALIZING IN LOW-COST TOOLS, CLOSE TOLERANCES, BEST DELIVERIES.

DAYTON ROGERS *Manufacturing Company*

Minneapolis 7, Minn.

For more details circle NED-892 F3 on enclosed inquiry slip

...FOR A JOB WELL DONE!

KATO ENGINEERED ELECTRICAL EQUIPMENT

KATO ENGINEERING has been building Special Electrical Equipment and Machinery since 1928. Our modern, well equipped plant produces the finest in generators and electrical machinery from the smallest to the largest. *We invite your inquiries on special requirements!*

A. C. GENERATORS
Sizes from 100 watts to 300 K.W., in one or two bearings. Speeds of 720—3600 R.P.M., 60 cycles. Also 15—800 cycles, single and three phase.
D. C. GENERATORS
Sizes ranging to 15 K.W.
ROTARY CONVERTERS
For Changing D.C. to A.C.
HIGH FREQUENCY CHANGERS
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D. C. MOTORS With A. C. Take-Off
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MOTOR-GENERATOR SETS
D. C. to A.C., A. C. to D. C. 25 cycles to 60 cycles, 60 to 400 cycles.

KATO *Engineering Company*

WRITE TODAY FOR INFORMATION!

1464 FIRST AVENUE MANKATO, MINNESOTA

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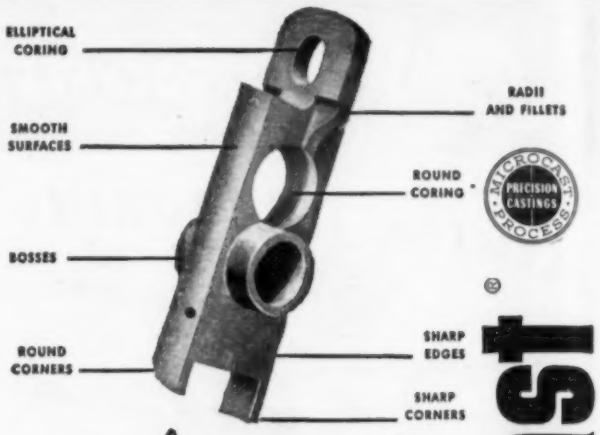


unlimited *design* possibilities

The Microcast Process of precision investment casting opens new fields of design to the product development engineer. Tough, virtually non-machineable high-heat metals and alloys can now be incorporated economically into your product's design through the Microcast Process. Design for little or no machining—for better parts at less cost—for longer life, and for functional improvements from the use of better metals and alloys. Write for booklet on Microcast—Also new color movie available without charge.

MICROCAST DIVISION | **Austenal Laboratories, Inc.** 224 East 39th Street, New York 16, New York; 7001 South Chicago Ave., Chicago 37

microcast

For more details circle NED-894 F3 on enclosed inquiry slip

"FLATWEAVE" SLINGS

Cut materials handling costs with Roebling "Flatweaves"

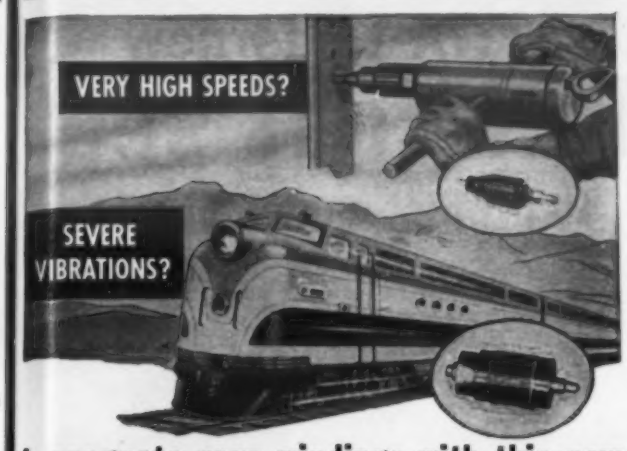
"FLATWEAVE" SLINGS are tops! Their broad, flat-bearing surface prolongs sling life. "Flatweaves" speed up operations because they're extra flexible, kink-resistant, and easy to handle.

Write for free copy of the "Roebling Sling Data Book." It gives the whole story about "Flatweaves", plus money-saving facts on the full Roebling line... a sling for top efficiency and economy on every job. John A. Roebling's Sons Corp., Trenton 2, New Jersey.

A subsidiary of The Colorado Fuel and Iron Corporation

ROEBLING

For more details circle NED-895 F3 on enclosed inquiry slip



Impregnate your windings with this new high-strength varnish — IRVINGTON No. 140

Lab tests prove it—field studies confirm it! The exceptional bonding strength of Irvington No. 140 prevents coil movement at high speeds or under severe vibration.

In addition, it offers high resistance to heat, oil and chemicals; excellent electrical properties; unusual stability.

Get the facts on this new Irvington insulating varnish—write for technical data bulletin.

LOOK TO IRVINGTON FOR INSULATION LEADERSHIP

IRVINGTON
VARNISH & INSULATOR COMPANY
14 Argyle Terrace, Irvington 11, New Jersey
Plants: Irvington, N. J.; Monrovia, Calif.; Hamilton, Ontario, Canada

▲ For more details circle NED-896 F3 on enclosed inquiry slip ▲

Accurate & Easy Tapping Thru 1½" Steel Plate!

With The New Heavy Duty
"TAP KING" Tapping Attachment

This rugged miracle worker weighs only 18 lbs.—yet can tap through a 1½" steel plate with ease and accuracy.

Unusual finger tip sensitivity, smooth, powerful driving power and rugged vibration free construction — enables operators to hold close tolerances on exacting large hole production jobs. Special design minimizes costly parts spoilage, tap breakage and drastically reduces operator fatigue. Some users report production gains of 50% on open hole tapping in high carbon steel forgings and 100% increases on blind hole tapping in steel castings.

Here's why: New exclusive heavy duty 17-tooth spline drive from clutch to tap holder assures RIGID & SMOOTH ACTION; increases accuracy and uniformity, reduces strain, wear and vibration. Spindle support at both ends eliminates tap wobble; double-cone friction clutch provides sensitive finger tip control; reverse speed is twice forward speed; has many other unusual features.

Write for FREE BROCHURE
Giving full particulars on the New Tap King and the complete line of Tapping Machines.

NEW "TRU-GRIP" Tap Holder

Lighter, smaller, affords easier tapping close to walls or shoulders.

PROCUNIER Safety Chuck Company
18-20 S. Clinton St., Dept. 6 Chicago 6, Ill.

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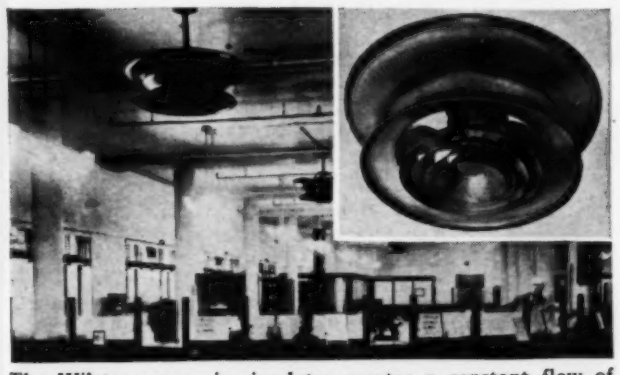
DRAFT-FREE COOLING . . . Low-Cost Comfort



The Wilster room air circulator creates a constant flow of natural draft-free air—for cooling in summer, and for even heat distribution in winter. The louver design insures even circulation to all parts of the room. A single unit circulates air completely every three minutes in 5000 cubic feet of space.

Automatic circulation thermostatically controls air flow without harmful drafts. Easily installed: simply hang it, and plug in.

Installations in offices, drafting roofs, factories, cafeterias, etc., are providing more comfortable year around working conditions. An inexpensive way of solving your air conditioning problems. WRITE NOW FOR A FOLDER.

WILSTER, INC.
1325 East 152nd St. East Cleveland 12, Ohio

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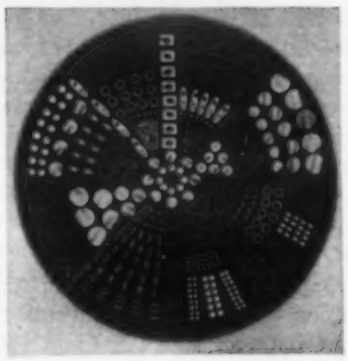
New Processes & Materials

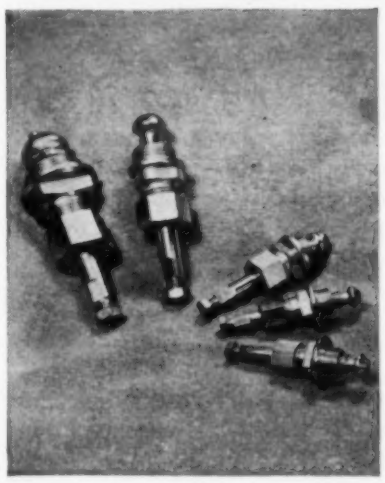
PREFORMED SOLDER packaged to prevent distortion



Comprising any desired tin-lead alloy, with or without a flux, Solderforms are made up in any required shape, such as ring, disk, pellet, washer or spring. Other metal components can be included if required. Forms can be soldered with flame, carbon resistance, oven, hot-plate, induction heating, infra-red or conventional soldering iron. Hundreds of different sizes and shapes can be produced, including disks from paper-thin stock 0.0015-in. thick and rings with wire diameters from 0.020 to 0.250 in. Forms have dimensional stability and are carefully packaged to prevent damage or distortion in shipping. Made by **Kester Solder Co.**, 4249 Wrightwood Ave., Chicago 39, Ill.

▲ For more details circle NED-899 F3 on enclosed inquiry slip ▲

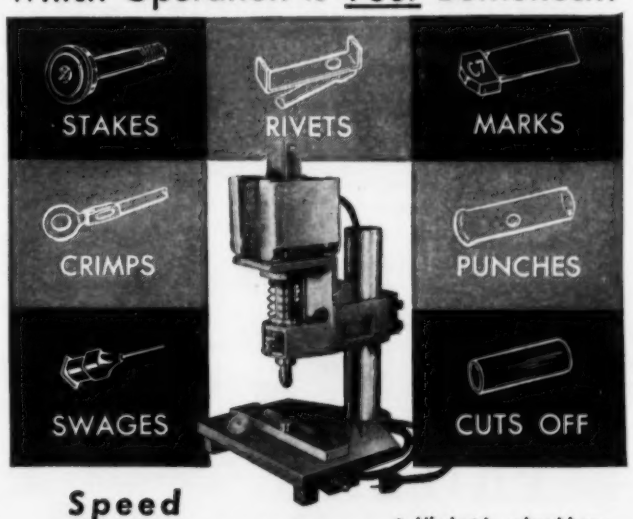
NICKEL PLATING PROCESS plates almost any solid substance with predictable nonporous plate



Using no electrolytic equipment, Kanigen process of nickel plating makes it possible to plate almost any solid substance with a predictable thickness of nonpourous plate. Intricate pieces, parts subject to hard wear and abrasion, over-machined parts and others can be plated uniformly, regardless of size or shape. Nickel deposits can be made on steel, copper, brass, bronze stainless steel, aluminum, magnesium and plastics. Parts formerly made of Monel or other relatively expensive metals can be made of cast steel and plated by this process to have the same corrosion resistant properties. Process also provides savings in amount of nickel required. Photo shows assembled plated brass valve stems. Developed by and available on license from **General American Transportation Corp.**, Dept. N-19, 135 S. LaSalle St., Chicago 90, Ill.

▲ For more details circle NED-900 F3 on enclosed inquiry slip ▲

Which Operation is Your Bottleneck?



Speed Output with LIGHTNING-FAST ELECTROPUNCH

- All-electric solenoid operated impact hammer with controllable blow
- Compact/economical/versatile/Plugs into 110 A.C. outlets
- Lightest model only $98.75

PRODUCES UP TO 5,000 hand positioned pieces per hr./ faster with automatic switching!
Write for all the details!

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Dept. 1, 445 Watertown St., Newton 58, Mass.
Also Bigelow 4-6370
Manufacturers of ELECTROSTAKE and ELECTROPRESS

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FOR MODERN *AIR* EQUIPMENT . . . SEE MODERNAIR

1. CYLINDERS
2. AIR CLAMP CYLINDERS
3. ECONOMAIR CYLINDERS
4. HAND VALVES
5. SOLENOIDS
6. QUICK EXHAUSTS
7. PILOTS
8. COMPRESSORS
9. AIR CONTROLS
10. FOOT PEDALS
11. MACHINE FEEDS
12. CHUCKS
13. SILENCERS

Modernair CORPORATION
400 PREDA STREET • SAN LEANDRO, CALIFORNIA

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NEW LOW PRICE ON NESTIER®

means greater savings than ever!

Increased sales and production of NesTiers enable us to offer you these remarkably efficient materials handling containers at a new low price you can't afford to ignore.

Even at their former price, NesTiers have been a major economy factor in every type of manufacturing plant. Now, with initial cost reduced, their savings potential is *greater than ever before!*

IT NESTS
IT TIERS

REMEMBER—
NesTiers are the *standard* shop boxes that do *every small parts handling job*—adapt perfectly to all methods of transportation—eliminate need for changing containers when dipping or degreasing!

THE CHAS. WM. DOEPKE MANUFACTURING CO., Inc.
Metal Specialties Division
ROSSMOYNE, OHIO

WRITE NOW FOR FREE DESCRIPTIVE CATALOG

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Engineered
FOR TUNGSTEN CARBIDE

MEYCO carbide tipped circular saws ARE DIFFERENT, because the blade and teeth have been engineered for tungsten carbide. It is this know-how of building a carbide tipped saw from the ground up, that has made MEYCO saws popular and accepted as the standard of the industry. MEYCO saws will run longer between grinds, give you more regrinds, produce smoother cuts and save you many times their small extra cost over ordinary circular saws. Write for fully descriptive catalog and price list No. 19.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

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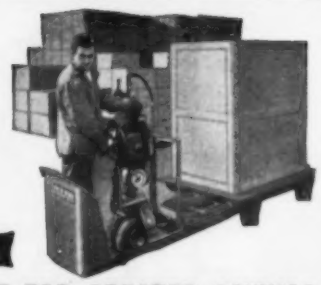
NOW truck-man



WITH POWER LIFT FOR GREATER SAVINGS

Successfully tested in the heaviest industries, two Truck-Man models are now ready to cut your costs still more with power lift. Hundreds of Truck-Man trucks with much smaller load capacities and only hand pumps are more than earning their way throughout the nation. Now Power Lift increases this efficiency while retaining the advantages of the agile standard models. A flick of the wrist and the new power lift raises or lowers the load instantly. Once load is raised from the floor, truck can start as balance of lift can be made in transit. 15-40 seconds are saved each trip—more trips per day—more work with less effort.

SIX VERSATILE MODELS

NEW MODEL DHP—Heavy Duty Skid Lift with power pump, 4500 lb. capacity—scoots through narrow aisles, up inclines and around sharp corners with a full load, three shifts a day with ease.

NEW MODEL DFP—3000 lb. capacity, power lift Pallet Toter—hustles those heavy palletized loads around the plant in jig time. Easily does the work of units costing 3 to 5 times as much.

MODEL DH—4500 lb. Skid Lift with Hand Pump.

MODEL DF—3000 lb. Pallet Toter with Hand Pump.

MODEL DT—2000 lb. Platform Utility for intra-plant messenger service, parcel delivery or other manually handled loads.

MODEL DR—Truc-Tor for towing those heavy cargo trains—up to 6500 lbs. on dry level concrete.

truck-man DIV. OF THE KNICKERBOCKER CO.
627 LIBERTY STREET • JACKSON, MICHIGAN

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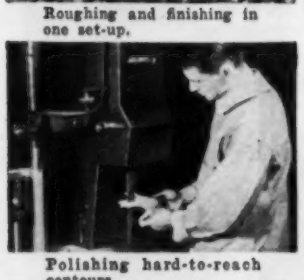
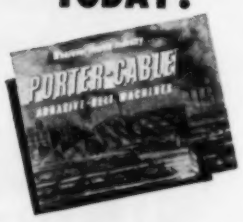
Roughing and finishing in one set-up.



Polishing hard-to-reach contours.

Machining rim surface 100% faster than milling.

Send for this
FREE BOOKLET TODAY!



Shows how manufacturers use abrasive belt machining to...

- grind ganged aluminum forgings
- finish-grind hardened steel bar
- deburr plastic without discoloring
- grind thin wall bronze casting
- bevel-grind corrugated metal
- centerless-grind carbon steel tubing
- bevel glass without chipping
- contour-grind sheet metal

Plus 38 other "case histories" on a wide variety of materials and operations. Booklet contains 32 pages of factual information . . . perhaps the answer to your own machining problems. Mail coupon for your free copy.

PORTER-CABLE Machine Co 1606 N. Salina St., Syracuse 8, N. Y.
(In Canada, send to: Strongridge, Ltd., London, Ont.)
Please send your free "Case Histories" booklet on the ingenious uses of abrasive belt machining.
Name.....Title.....
Address.....
City.....State.....
Manufacturers of SPEEDMATIC and GUILD Electric Tools

▲ For more details circle NED-909 F3 on enclosed inquiry slip ▲

New Literature & Catalogs

Sound Measuring Instruments

General Radio Co.—Line of equipment for measuring ultrahigh frequency sound is described and illustrated in 12-page catalog 797-A. Specifications are given for sound-level meter and accessories, sound-survey meter, sound analysis equipment, sound analyzer for narrow band measurements, octave-band noise analyzer for wide band measurements, vibration meter and vibration analyzer.

▲ For more details circle NED-910 F3 on enclosed inquiry slip ▲

DC Power Supplies

John Fluke Engineering Co.—Detailed technical information including circuit features and performance data on series 300 and 400 direct current power supplies and a power standard cell is given in 6-page bulletin. Two supplementary data folders cover model 101 and 102 VAW meters for measurement of volts, amperes and watts. These instruments read watts directly from 20 to 200,000 cycles/second.

▲ For more details circle NED-911 F3 on enclosed inquiry slip ▲

Air Diffusers

Anemostat Corp of America—64-page illustrated Selection Manual No. 45—1953 contains comprehensive technical data for simplifying the choice of proper air diffusers in air conditioning systems. In its third revised edition, manual contains new section on duct take-off design. Units feature four or more cones to split air into multiple layers.

▲ For more details circle NED-912 F3 on enclosed inquiry slip ▲

Automatic Coal Scale

Richardson Scale Co.—The H-39 automatic coal scale for weighing coal as it is fed to boilers is subject of 16-page well illustrated bulletin 0352. Construction and operating details are given on the belt feeder which delivers coal from bunker to weigh hopper, and on the weigh hopper, scale housing, operating levers and accessories.

▲ For more details circle NED-913 F3 on enclosed inquiry slip ▲

Die Filing Tool

Nord International Corp. — Brief description and specifications are given in single data sheet on the Di-Profiler, a power-driven die filing tool. It files, hones, polishes, laps, chafes and saws all material from carbide bits to wood and fiber. Tool has "by hand" control and adjustable stroke length from 0 to ¼-in.

▲ For more details circle NED-914 F3 on enclosed inquiry slip ▲

Carbide Masonry Drills

United Drill & Tool Corp., Whitman & Barnes Div. —Regular Spiral and Fastlead carbide masonry drills and sets described in 4-page circular MD-25353 will drill easily and quietly in concrete, cement, brick, slate, marble and stone. Dimensions are tabulated.

▲ For more details circle NED-915 F3 on enclosed inquiry slip ▲

REMOVE STUBBORN GREASE AND DIRT FROM METAL PARTS — EASIER, FASTER, MORE ECONOMICALLY WITH . . .

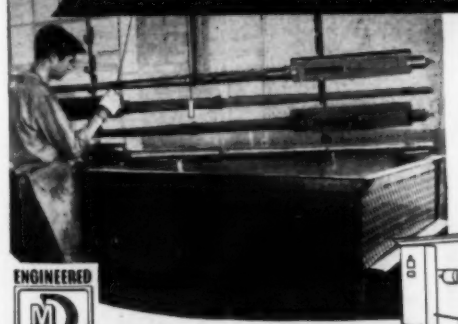


Photo shows 20 mm. guns after degreasing of Cosmoline, prior to modification operations.

ENGINEERED SERVICE PHILLIPS
VAPOR DEGREASERS

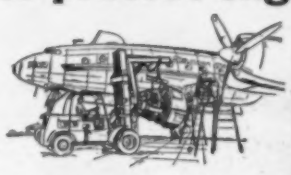
THE most heavily greased up parts will come clean easier and faster in a Phillips degreaser. High vapor temperature (250.2° F.) not only causes more dissolved grease to run off the metal, but makes for faster degreasing too. Wherever you have parts to clean, large or small, before plating, painting, rustproofing, service and repairwork, etc., you can do it better, faster and more economically with a Phillips degreaser. There's a standard model to meet your needs. Check with Phillips today.

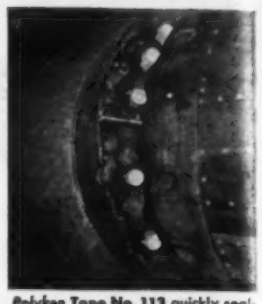
SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DEGREASER BULLETIN!

Phillips MANUFACTURING COMPANY 3463 Touhy Ave. • Chicago 45, Illinois
Vapor Degreasers • Solvents • Parts Washers

▲ For more details circle NED-916 F3 on enclosed inquiry slip ▲

TWA finds new low-cost seal to protect engine openings





Polyken Tape No. 113 quickly seals exhaust ports while engines are being overhauled at the TWA Overhaul Base, Fairfax Field, Kansas City, Kansas.

While the giant engines of TWA transports are being overhauled, all the exhaust and carburetor ports are open invitations to damage by dust and foreign matter. Wooden plugs didn't do the job. They were expensive, took a lot of time to fit, and didn't always form a complete seal. *Polyken* Tape No. 113 solved the problem. Now all the engine openings are sealed with this *Polyken* Tape. The seal is complete, quickly made, much cheaper.

This is just another example of the way industry is finding new money-saving uses for *Polyken* Tapes. Write for free samples and complete information. *Polyken*, Dept. NEF, 222 West Adams St., Chicago 6, Ill.

Polyken®
INDUSTRIAL TAPES
Department of Bauer & Black • Division of The Kendall Company

▲ For more details circle NED-917 F3 on enclosed inquiry slip ▲

new literature

DUST and FUME TOPICS

A quarterly review of the latest applications in dust control, "Dust and Fume Topics" describes a practical approach to a variety of dust control problems in each issue. Send in your name and you will receive a copy regularly.

DUST CONTROL *in the Metal Industry*

Bulletin 392 describes the use of Dustube Collectors for solving the heavy dust creating problems of the metal industry. It contains typical application examples. Send for your copy.

DUST CONTROL *in the Chemical Industry*

Case history reports on the handling of hexachloride, cryolite and sulphur dusts are presented in Bulletin 342. It shows how Dustube Collectors recover valuable material, improve working conditions and reduce maintenance costs.

33 EXAMPLES of DUST CONTROL

This 24-page brochure contains 33 examples of efficient removal of dust and fume from process operations. Ask for it by title, "Industry Relies on Dustube".

40-PAGE CATALOG

Catalog 72-B contains 40 pages of practical information and engineering data on dust and fume control. It explains the unique operating simplicity and economy of Dustube Collectors.

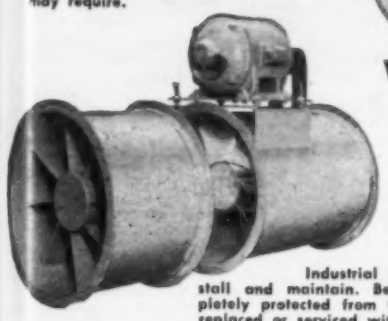
American dustube COLLECTORS
WHEELABRATOR & EQUIPMENT CORP.
508 S. Byrkit St., Mishawaka, Ind.

▲ For more details circle NED-918 F3 on enclosed inquiry slip ▲

AIR!

TUBEAXIAL FAN

Designed especially for the critical and toughest ventilation or exhaust problem. May be connected to inlet or outlet duct, or both, as the installation may require.



VANEAXIAL FAN

Illustration shows installation of vanes on the discharge side of propeller. Waste energy is converted to useful work. The guide vanes straighten out the air stream, assuring a true axial flow of air.

Industrial Air units are simple to install and maintain. Bearings and drive are completely protected from the exhaust air and can be replaced or serviced without removing the unit from the system. Available to your job needs and specifications, either direct or belt driven units, sizes from 12" to 48", motors from ⅛ H.P. to 50 H.P. Static pressure up to 4", 1,000 to 65,000 C.F.M.

Represented in All Principal Cities

Write Dept. 101 For Complete Catalog

THE HARVEY P. BERTRAM CO.
561-565 READING ROAD - CINCINNATI 2, OHIO

For more details circle NED-919 F3 on enclosed inquiry slip

Two Fuller two-stage compressors in a steel mill. Capacity each, 1660 c.f.m., 125 lb. pressure.

AIR ISN'T FREE!
but with FULLER rotary compressors
IT NEED NOT BE COSTLY

Fuller Rotary Compressors are built to provide a lifetime of new machine efficiency. They're sturdy, dependable . . . and because they have a minimum of moving parts—rotor, bearings, blades—they require minimum attention. There are no valves to leak, no seats to grind, and blades automatically compensate for wear. No detail has been overlooked that makes for long-term, trouble-free service, at the lowest possible maintenance and operating costs.

Have a Fuller engineer show you how they pay off in dependable service and long life.

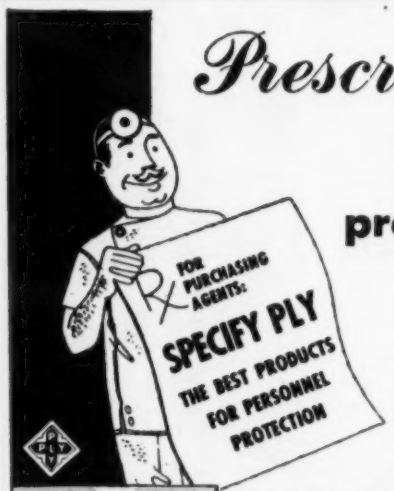
FULLER COMPANY—CATASAUQUA, PA.
Branch Offices
Chicago • San Francisco • Los Angeles • Seattle • Birmingham

C-233A—2059

Fuller PIONEERS OF HIGH-EFFICIENCY VANE TYPE ROTARY COMPRESSORS

For more details circle NED-920 F3 on enclosed inquiry slip

Prescription for protection

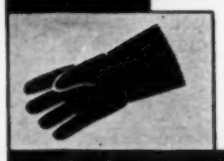


When you select Ply products to protect your employees from the hazards of industrial processing, you have the satisfaction of knowing you have purchased the very best!

For over 20 years Ply products have been used and proven successful by the nation's leading industrial plants. If you're not already using Ply products, it's time to get the facts now!

Write today for literature and samples

PLY-GARB clothing is now available in plastic woven materials that assure complete protection, long wear and comfort.



PLY-GLOVS are plastic coated and will protect your workers hands from water, acid, caustics, petroleum—and all chemicals except M.E.K. solvents.

THE MILBURN COMPANY
DETROIT 7, MICHIGAN

For more details circle NED-921 F3 on enclosed inquiry slip

New Processes & Materials

DIAMOND LAPPING COMPOUNDS in kit-size wooden case

A complete micro-finishing assortment of diamond lapping compounds now available in handy kits contains nine Spectrum grits in sizes 120, 170, 325, 600, 1200, 2000, 3000, 8000 and 14,500. Three other grit sizes are obtainable. Kit includes 4-oz bottle of diamond lapping oil, an atomizer oil applicator, assortment of Spectrum micro laps, orangewood sticks and assortment of felt mounted points. Walnut finished wood case, with lock and key, protects and preserves material and equipment. Made by **Penn Scientific Products Co.**, 5941-A Alma St., Philadelphia 24, Pa.

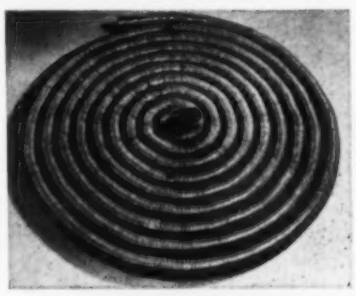
For more details circle NED-922 F3 on enclosed inquiry slip

GENERAL PURPOSE SOLVENT for resins, salts and gases

Available in drum and tank car quantities, Dimethylforamide solvent will dissolve a variety of materials such as synthetic and natural resins, inorganic salts and gases. It is recommended for use in purification of acetylene, as a solvent medium for organic reactions, as a solvent for acrylonitrile polymers and for solvent extraction processes where a high degree of selectivity is required. Samples are available from **Rohm & Haas Co.**, 222A W. Washington Sq., Philadelphia 5, Pa.

For more details circle NED-923 F3 on enclosed inquiry slip

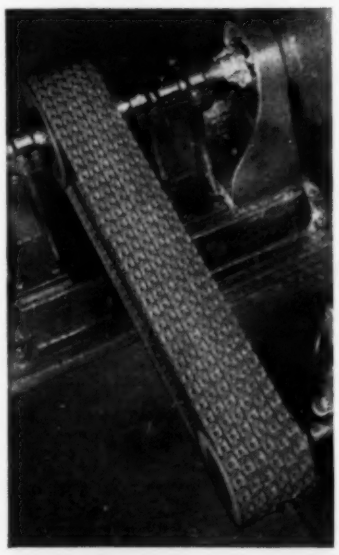
INDUSTRIAL TUBING for exhaust or blowing systems



Wide range of industrial air handling, fume removal and dust collection applications can be handled by Flex-flyte Green Label flexible tubing. Rust-resistant wire helix is covered with high-count woven fabric coated with tough resinous compound. Tubing is lightweight, has relatively smooth bore and negligible reduction of cross-section area in tight bends. It has good aging qualities and resists oils, gases, acids, alkalies, abrasion and flame. Tubing can be obtained in any length up to 50 ft and in diameters from 1 to 2½ in. in ½-in. increments. Made by **Flexible Tubing Corp.**, 10 N. Whitfield St., Guilford, Conn.

For more details circle NED-924 F3 on enclosed inquiry slip

Test these 3 "E's" of Veelos in your plant



Ease of Installation—the link construction of Veelos makes it easy to install without re-setting the motor or tearing down outboard bearings. Installation time is often cut 50% to 90% over endless v-belts.

Efficiency of Operation—because individual Veelos v-belts can be adjusted for correct tension, matched sets can be kept matched; vibrationless, full power delivery is assured.

Economy of Inventory—just 4 reels of Veelos in the 0, A, B and C widths can replace up to 316 different sizes of endless v-belts. Inventory is simplified, costly belt deterioration is eliminated and you save valuable stockroom storage space.

VEELOS DATA BOOK
Here's the complete story on Veelos, the adjustable v-belt. Write for your copy today!

VEELOS THE LINK V-BELT

MANHEIM MANUFACTURING AND BELTING CO.
650 Manbel Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

For more details circle NED-925 F3 on enclosed inquiry slip

run d-c motors from a-c lines

with Variac Motor Speed Controls

- ★ 4 Models from 1/15 to 3/4 h-p DC Motors
- ★ Extra Fast Start-Stop-Reverse
- ★ No Electronic Tubes —no Warm-up Required
- ★ Speed Range 5-10 rpm to 15% Above Rated
- ★ No Jumpiness Even at Lowest Speeds
- ★ Good Regulation
- ★ High Starting Torque
- ★ Simple Installation —at Machine if Desired
- ★ Easy Maintenance
- ★ Low First Cost

Write for the VARIAC Speed Control Bulletin

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 · 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

For more details circle NED-926 F3 on enclosed inquiry slip

HOW TO SELECT THE *RIGHT* MOTOR AND CONTROL FOR YOUR JOB

Name your motor and control need . . . a-c or d-c, from 1 to 700 hp . . . this book has the answers! Gives requirements to consider before selection. Features comprehensive chart, teaming the right motor and control to the right job.

Introduces Westinghouse motor and control features—tells what they mean to you . . . shows modifications and accessories available and explains how they add life and versatility. It's a valuable selection guide with a storehouse of facts. Write for free booklet, Motor and Control Selector Guide, B-5458, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-21687

YOU CAN BE SURE... IF IT'S Westinghouse
MOTORS and CONTROLS

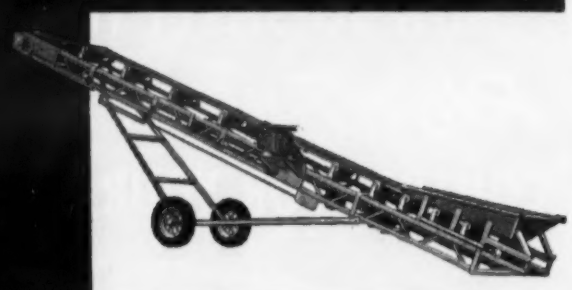
For more details circle NED-927 F3 on enclosed inquiry slip

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

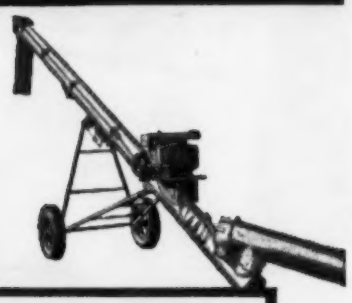
▲ For more details circle NED-928 F3 on enclosed inquiry slip ▲

SAVE MANPOWER



MODEL 230—Portable "Hi-Speed" troughed belt conveyor . . . standardized and "job-fitted" for more economical and faster handling. Built in lengths up to 46 ft. Powered by gasoline or electric motor. Write for Bulletin A-296.

with BAUGHMAN



MODEL Q-51—New Hi-Speed Screw Conveyor for all material that rolls or becomes fluid in motion. For permanent installations or portable models as shown above. Underbin or undertrack screw loader easily attached. Write for Bulletin A-295.

Bulk Material Conveyors

MODEL 175—Hi-Speed Belt and Bucket Elevator. Fully enclosed, spaced buckets, centrifugal discharge elevator for permanent or temporary installations. Also open belt and bucket elevators, Models 210 and 220 available. Write for Bulletin on these models.

MODEL 225—Conveyor combinations assembled from standardized sections, easily "job-fitted" to any bulk material handling. Prompt delivery from stock. Write for Bulletin A-342.

Sold and serviced nationally and in Canada. Write Baughman, the Best name in Bulk material handling.

BAUGHMAN
BAUGHMAN MANUFACTURING CO., INC.
115 Arch St. JERSEYVILLE, ILLINOIS

▲ For more details circle NED-929 F3 on enclosed inquiry slip ▲

New Literature & Catalogs

Box Handling

Elwell-Parker Electric Co. — "The Logistics of Boxes" is title of 8-page booklet containing handling tips for receiving material in boxes, transporting boxed material through processing, and shipping material in boxes. For the purpose of the booklet, any rectangular article which can be loaded for transportation is considered a box.

▲ For more details circle NED-930 F3 on enclosed inquiry slip ▲

Reamers

Lavallee & Ide, Inc.—Catalog and price list No. 53 on reamers, arbors, blanks and engraving cutters contain altogether 50 pages of information, are fully indexed and illustrated. Complete ordering information is provided on a very wide products range.

▲ For more details circle NED-931 F3 on enclosed inquiry slip ▲

Conveyor Belting Maintenance

B. F. Goodrich Co.—Original correct installation as well as trouble-shooting hints on composition conveyor belting are contained in a new 32-page manual. A table lists common maintenance problems, the cause of each one, and its best remedy. If you have belting, you can use this booklet.

▲ For more details circle NED-932 F3 on enclosed inquiry slip ▲

Flexible Metal Hose

Flexonics Corp.—Folder CMH-122R on flexible metal hose emphasizes wide range of hose types and assemblies available for usual and special purpose applications. Various types handle liquids, gases, solids and semisolids. Selection chart is included.

▲ For more details circle NED-933 F3 on enclosed inquiry slip ▲

Shop & Office Chairs

Angle Steel, Inc.—12-page bulletin No. 200 contains ordering information and sizes of a large line of industrial stools and chairs, with models for most purposes, and sizes to fit most occasions. Posture chairs, filing stools and cabinets and draftsmen's chairs are typical.

▲ For more details circle NED-934 F3 on enclosed inquiry slip ▲

Pump Selector

General Scientific Equipment Co.—A full line of acid pumps is shown in a new folder, covering foot and hand-operated pumps for withdrawing corrosive liquids from carboys, drums and barrels. It gives operating principles, capacities, specifications and prices.

▲ For more details circle NED-935 F3 on enclosed inquiry slip ▲

Stainless Steel Wire

Allegheny Ludlum Steel Corp.—20-page technical data booklet on stainless steel wire application covers cold-heading, weaving, heat resisting belts, rope spring wire, slide forming, welding and winding. Included are tables of physical properties, corrosion resistance and analyses.

▲ For more details circle NED-936 F3 on enclosed inquiry slip ▲

VOLTS and AMPS at a glance with the COLUMBIA

Complete with Voltage Leads and Carrying Case

A. C. TONG TYPE VOLT-AMMETER
• Quickly • Accurately • Safely

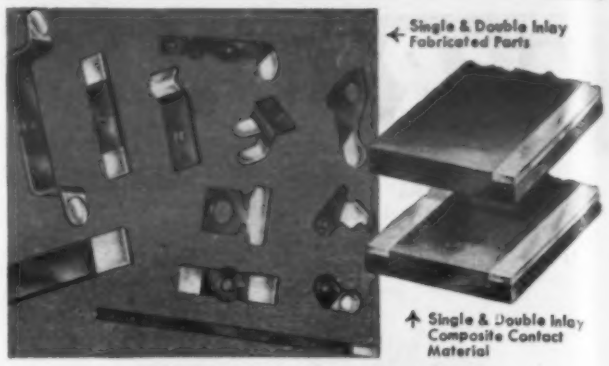
Columbia Type AC-1 provides ampere readings with a snap by merely clamping jaws around the electrical conductor, without breaking circuit or insulation. Voltage readings are taken quickly and easily with safety plug-in leads. This instrument is one of the Columbia line of tong type instruments of the highest quality and dependability.

TYPE AC-1 FEATURES
- Measures up to 600 Amperes and 600 Volts.
- Amperes: 0/12/60/120/-600 A.C.
- Volts: 0/150/600 A.C.
- Convenient Range Switch.
- Insulated Jaws will accommodate Conductors up to 1½" diameter, Bus Bars up to 2" x ½".
- Accuracy: 3% full scale.
- Light Weight—Fits Easily Into Pocket.
- High Quality at Low Cost.

Inquiries Invited from Distributors • Write for Descriptive Bulletin AC-25

COLUMBIA ELECTRIC MFG. CO. 4525 Hamilton Ave Cleveland 14, Ohio

▲ For more details circle NED-937 F3 on enclosed inquiry slip ▲



GENERAL PLATE
Composite Contacts Reduce Fabrication Costs . . .
Provide Better Performance

General Plate Composite Contact Materials make it possible to manufacture complete contact assemblies to close tolerances by single blanking and forming operations as compared to other methods whereby the contacts and supporting members are fabricated separately and then assembled by brazing, welding or staking methods.

The junction between the precious metal and the base metal is homogeneous and free of voids resulting in a high rate of heat transfer. The rapid dissipation of heat away from the contact surface materially reduces electrical erosion. In many applications, General Plate Composite Contact Materials provide increased contact life even with a reduction in the thickness of the precious metal as compared to the thickness of the precious metal used in separate contacts.

By letting General Plate fabricate your complete contact assemblies, you will save money, time and trouble . . . needless equipment cost and problems of scrap disposal are eliminated . . . contacts and/or contact assemblies made to your exact specifications are shipped to you ready for installation.

If you fabricate your own parts, General Plate Composite Contact Materials will still save you money and allow you to make contact assemblies superior to those produced by other methods.

The long experience, diverse facilities and manufacturing skill of General Plate will benefit you in the form of service, quality and savings.

Write for complete information and Catalog PR700.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
86 Forest Street, Attleboro, Mass.

▲ For more details circle NED-938 F3 on enclosed inquiry slip ▲

PREVENT THERMOMETER FOGGING

No matter how long you dunk it, you can't cloud the accuracy of a Rochester dial thermometer.

THIS SUBMERSIBLE QUALITY is important to you. It means fast, easy temperature readings . . . without any danger of a foggy crystal causing inaccuracy. Rochester dial thermometers are assembled and hermetically sealed in a special humidity-controlled "dry" room. This eliminates any possibility of condensation inside the thermometer.

ALL STAINLESS STEEL CONSTRUCTION—All outer parts (except crystal) of Rochester dial thermometers are stainless steel. What's more, the case, stem and nut are fused into a single *corrosion-resistant* unit by an exclusive Rochester welding process.

EXCLUSIVE OUTSIDE RECALIBRATION—Rochester makes the *only* industrial thermometer that can be recalibrated from outside the case. If an extremely hard blow should knock it out of adjustment, you can have it back on the job in less than a minute . . . without taking the thermometer apart or breaking the hermetic seal.

You can order Rochester thermometers from one of our specialized instrument representatives listed in Sweet's Catalog. Or write direct for full details. Rochester Manufacturing Company, Inc. 114 Rockwood St. Rochester 10, N. Y.

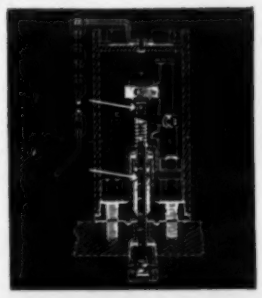
MILLIONS of Rochester Dial Thermometers are now delivering dependable service

Rochester MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS

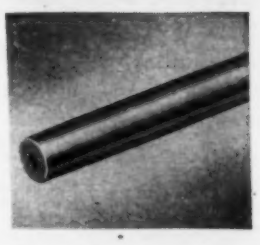
▲ For more details circle NED-939 F3 on enclosed inquiry slip ▲

Tube Talk THE "HOW-TO" COLUMN

PROBLEM: Tubing required for "gauge rods" of tank car gauges made by Metal Goods Manufacturing Co., Bartlesville, Okla. Accurate, safe measurement of "pressure liquids" such as propane, butane, etc. demands heavy wall tubes that are smooth and precise for a perfect seal.



SOLUTION: Superior 304 Seamless Stainless Steel Tubing—9/16" O.D. with 3/16" wall.



RESULT: Customer states Superior tubing is "free from drawing marks and other imperfections"—"unmatched for precision and excellence of finish"—"plays important part in assuring accurate measurement—and in keeping cars on open track with safety and reliability."

Suggestion—Write for information and literature today.

SUPERIOR TUBE COMPANY
2018 Germantown Ave., Norristown, Pa.

▲ For more details circle NED-940 F3 on enclosed inquiry slip ▲

HEAT SAVER!
INSTALLED WITHIN 3 HOURS!
...KEEP WINTER OUT OF YOUR PLANT!

PREST-O-MATIC
The COMPLETE ELECTRICAL DOOR UNIT

NOTHING ELSE TO BUY
•
NO ALTERATIONS REQUIRED
•
PERMIT FULL USE OF DOORWAY WIDTH

Fully automatic, motor-operated, for approach pull-cord, floor plate or electric eye control. Includes doors, frames, ALL hardware and motor operator all ready for installation by plant crew in 3 hours!

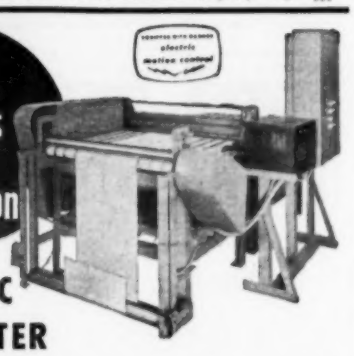
OPEN OR CLOSE IN 3½ SECONDS

Designed "in balance" for faultless functioning, unconditionally guaranteed; with or without pass doors. Trial orders have brought scores of reorders from large and small manufacturers. Get Catalog details!

CLARK DOOR COMPANY
511 Hunterdon Street • NEWARK 8, N. J.

For more details circle NED-941 F3 on enclosed inquiry slip

NEW to cut your costs and increase production



Hobbs AUTOMATIC PRODUCTION CUTTER

Feeds, controls, measures, and cuts soft "in-process" materials to uniform sheet sizes!

Designed for easy handling of paper, plastic, cloth, etc. up to 60" wide from extruders, laminators, "in-process" operations, or from rolls and sheets. Uses electronic measuring device and precise controls for accurate, low cost operation. Processes material at rate of 10 to 100 feet a minute, depending on length of cut. Web can be cut into smaller widths by adding slitting attachment, so material can be accurately slit and cut in one operation. Special feeding and take-away devices are available for any production set-up.

For trouble-free performance through the years, specify only genuine Hobbs replacement blades, accessories and repair parts.

FOR YOUR PROFITS' SAKE—BE SURE TO INVESTIGATE THIS NEW MACHINE NOW! WRITE FOR COMPLETE DETAILS.

HOBBS MANUFACTURING CO.
41 SALISBURY ST., WORCESTER 5, MASS.
EST. 1882 Producers of Modern Machinery for Modern Industry
Jacques Hand Shears, Hobbs Production Cutters, Corner Cutters, Slitters and Rewinders, Autotronic and Tri-Power Die Presses.

For more details circle NED-942 F3 on enclosed inquiry slip

Not a GIANT Yet

HE EASILY PICKS UP 800 lb. LOADS WITH A SABIN One-Man BARREL TRUCK

SAVES COST OF HELP

Instead of running ordinary truck up to container and waiting for helpers, you move a Sabin Truck up to the container, hook on at top and pull back on handle to pick up load. *Third Wheel Feature* for better balance and added safety in moving load. WRITE FOR BULLETIN 48-A.

THE SABIN MACHINE CO.
6536 Carnegie Avenue
Cleveland 3, Ohio

For more details circle NED-943 F3 on enclosed inquiry slip

New Processes & Materials

VIBRATION ABSORBENT material usable for mounts

Vibraglass is a shock and vibration absorbing resilient board material that is adaptable as mounts for heavy or light machinery and electric motors and lightweight shock-absorbing mounts for aircraft instruments and radio equipment. Another application is as vibration muffling strips in forced air furnaces. Material is made of compressed and bonded glass fibers and supports vibrating loads as great as 2000 psi at temperatures from −100 to 375° F. It resists fire, decay and corroding elements such as moisture, oil and fungi. Made by **Glass Fibers Inc.**, 1812 Madison Ave., Toledo 2, O.

For more details circle NED-944 F3 on enclosed inquiry slip

ELECTRONIC INSULATING MATERIAL is heat resistant polystyrene type

German-developed Styroflex polystyrene insulation material for electronic application resists high pressures without yielding at temperatures below softening point of 95° C, and shows almost no plastic flow. Compressive strength of 14,000 psi and tensile strength of 10,000 psi combine with low elongation to make a flexible insulation especially suitable for high frequency applications. Material is nonhygroscopic and is unaffected by adverse humidity. Wound capacitor having polystyrene film dielectric can hold its charge indefinitely. Film is available in tapes of any length, from ¼ to about 10-in. wide and from 0.0004 to 0.005-in. thick. Made by **Natvar Corp.**, 213 Randolph Ave., Woodbridge, N. J.

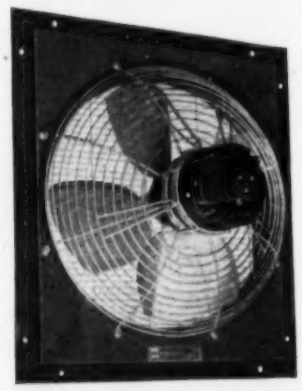
For more details circle NED-945 F3 on enclosed inquiry slip

GAS WELDING HOSE has 200 psi working pressure

Improved rubber hose for gas welding apparatus withstands greater heat and flame than types previously made, is lightweight and resists grit, sharp metal and oil. Carcass is rayon reinforced and has Neoprene cover. Hose consists of double tubes, one for acetylene gas, the other for oxygen, which are vulcanized together to form integrated whole. Twisting and knotting are minimized. Working pressure is 200 psi. Hose is furnished in lengths up to 500 ft and in various diameters to fit any type welding apparatus. Made by **Hewitt-Robins Inc.**, Hewitt Rubber Div., 240 Kensington Ave., Buffalo 5, N. Y.

For more details circle NED-946 F3 on enclosed inquiry slip

Two types, 7 basic sizes. Capacities from 400 CFM to 23,500 CFM.



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PROPELLER FANS

Propeller type ventilating fans deliver large volumes of air at low resistance and low current consumption. All wheels are machine balanced for smooth, vibrationless operation. They are laboratory tested, accurately rated and fully guaranteed in strict accordance with Standard Codes.

CERTIFIED RATINGS NAFM

Write for Bulletin 494

nyb THE NEW YORK BLOWER COMPANY
SALES OFFICES • 32nd STREET and SHIELDS AVENUE • CHICAGO 16
FACTORY, LAPORTE, INDIANA

For more details circle NED-947 F3 on enclosed inquiry slip

UNDER $2000

Automatic TUBE BENDER

BEND-EX AIR COMPRESSION TUBULAR BENDING MACHINE

Makes Over 900 bends an hour

Adaptable to All bending . . .
round, square, rectangular — pipe, light angles, channels, solid bars, etc.

WRITE FOR FREE LITERATURE

• FURNITURE • AUTOMOTIVE
• AIR CRAFT • PLUMBING
• AIR CONDITIONING • REFRIGERATION

PAUL MACHINE TOOL & DIE WORKS
4600 S. Kedzie Dept. N-1
CHICAGO 32, ILLINOIS

For more details circle NED-948 F3 on enclosed inquiry slip

MAKE THIS FREE TEST
and discover for yourself there's no better direct positive print paper

Write on your company letterhead for stock samples sent without obligation

DIETZGEN DIRECTO
T. M. REG. U. S. PAT. OFF.

NOW you can have longer-lasting direct prints that fairly sparkle with contrast

You get blacker-than-ever lines on whiter-than-ever backgrounds with DIRECTO, the new, improved Dietzgen semi-dry process that gives you ready-to-use direct positive prints in seconds. DIRECTO prints fight wear and tear, and even when oil-soaked, grime-smeared, sweat-stained they retain amazing legibility.

You are assured of uniformity because DIRECTO developing solution is chemically stable, always brings out strong black images, whether mixed fresh or old. And there's no washing, no lengthy drying, no negative needed. DIRECTO prints are made direct from your translucent original.

Compare this remarkable material with any other you have ever used. DIRECTO is available now with blue, pink, yellow and green backgrounds, as well as white, for convenient color coding. Send for samples.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Los Angeles • Pittsburgh • Washington
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EVERYTHING FOR DRAFTING SURVEYING & PRINTMAKING

Free Samples!

For more details circle NED-949 F3 on enclosed inquiry slip

Femco COMMUNICATION

Femco CRANEPHONES
Talk from cab to floor and cab to cab

Femco AUDIOPHONES
Fixed-point industrial communication

Femco PAGEPHONES
Flexible inter-com and page systems

Femco PORTAPHONES
Movable as your work progresses

Efficiency is improved—production goes up, when Femco equipment is installed. Consider: as many mike-speaker stations as you need, moving or stationary, anywhere in your plant, office or yard.

DEMONSTRATIONS ARRANGED

ASK FOR YOUR FEMCO DATA KIT

FARMERS ENGINEERING & MANUFACTURING COMPANY
IRWIN, PENNSYLVANIA

SPECIALISTS IN ELECTRONIC Communication and Control

For more details circle NED-950 F3 on enclosed inquiry slip

VARGLAS permafil SLEEVING

Shortly after our first announcement of Varglas Permafil Tubing, engineers began praising its many features — especially its extra flexibility and toughness.

Now, for the first time, Varglas Permafil Sleeving is available in N.E.M.A. grades C-2 and C-1. This new sleeving is lighter coated than the Permafil Tubing but it frequently does the insulating job where tubing was formerly used — and, of course, the cost is much less. Available in coils. Write for free test samples and prices.

VARFLEX CORPORATION
310 Jay St. Rome, N.Y.

For more details circle NED-951 F3 on enclosed inquiry slip

SLOW SPEED VERTICAL DRIVES FOR EVERY JOB...

Hygrade Drives

Hygrade with Extended Shaft

Line-O-Power Right Angle

Foote Bros.-Louis Allis Gearmotors

Worm-Helical Gear Drives

If you have an application requiring vertical drives to operate at slow speed, you will find a complete line of enclosed vertical drives at Foote Bros. These drives are newly engineered with precision generated gearing backed by advanced engineering, new techniques in manufacture and better control of material. May be had with standard output shaft or with extended shaft. Mail the coupon for information.

Foote Bros. Gear and Machine Corporation
Dept. NE, 4545 So. Western Blvd., Chicago 9, Illinois

Please send me information on Foote Bros. Vertical Drives.

Name.....

Address.....

City.....State.....

For more details circle NED-952 F3 on enclosed inquiry slip

New Literature & Catalogs

Dripproof Induction Motors

Lima Electric Motor Co.—Bulletin RS-2 gives speed-torque curves, frame number charts, dimensions and specifications for motors from 1/3 to 150 hp, also includes variations for optional mounting and special purpose applications. Motors feature prelubricated bearings which are sealed for life and require no attention.

For more details circle NED-953 F3 on enclosed inquiry slip

Self-Cleaning Vibrating Conveyor

Carrier Conveyor Corp.—Operating principle of self-cleaning Natural Frequency conveyor for handling any material which will not cling to the pan or bulk-up due to aeration is described in 12-page brochure. Conveyor pan is vibrated by small motor to the natural frequency of springs on which conveyor is mounted. Booklet also covers spiral conveyors which operate on same principles of directional throw.

For more details circle NED-954 F3 on enclosed inquiry slip

Series Motor Parts

General Electric Co.—One of two booklets on series motor parts, No. GET-2297 gives selection and application data through use of charts, curves, formulas, diagrams and cutaway pictures. Ventilation, brush life, armature balance and backlash are dealt with. Second booklet GEA-5665 highlights available engineering consultation service, reviews design problems and describes line of type BA motor parts rated from 1/20 to 2 hp, 3000 to 15,000 rpm.

For more details circle NED-955 F3 on enclosed inquiry slip

Wire Mesh Fences

Colorado Fuel & Iron Corp.—48-page ring-bound catalog F-901 describes and specifies five series of wire mesh fences, gates and special installations. Series 300, 500 and 600 which specifically have industrial plant application can be 5 ft high or over and feature three, five and six-strand barbed wire top finish. Fence components are hot-dip galvanized for weather protection.

For more details circle NED-956 F3 on enclosed inquiry slip

Coil Grab

Dixon Automatic Tool, Inc.—A one-man coil grab is described in pictorial 4-page bulletin. This unit is said to speed heavy coil stock handling operations and make them safer. There are seven models in the line, with capacities ranging from 1000 to 10,000 lb.

For more details circle NED-957 F3 on enclosed inquiry slip

Dock, Barge & Ship Cranes

Thew Shovel Co.—Various applications of line of cranes on docks, barges and ships are shown in 12-page booklet. Full 8 x 10-in. pictures and short job descriptions make book interesting and easy to read.

For more details circle NED-958 F3 on enclosed inquiry slip

The only perfect, mathematically designed boring tool on the market for mass production boring and internal threading

THE BOKUM BORING TOOL

BORE MORE HOLES IN LESS TIME

The cutting heads of Bokum Tools were designed to give you fast performance, economy in production, and efficiency in results.

Repeated resharpenings (one face only) does not change the scientifically-engineered helical form. Thus the clearance remains constant throughout life of tools — and they do have a long life.

Available in:

- Super high-speed steel
- Carbide-tipped
- Solid tungsten carbide
- For boring holes from 1/16" diameter up.
- Put up in sets of desired tool sizes and types, in quantity assortments to suit.
- Special holders for specific uses.
- Send for complete catalog.

BOKUM TOOL CO.
SINGLE POINT BORING TOOLS—INTERNAL THREADING, BOTTOMING AND FACING TOOLS—CARBIDE TIPPED TOOLS
DEPT. T • 14775 WILDEMERE AVE. • DETROIT 21, MICH.

For more details circle NED-959 F3 on enclosed inquiry slip

MACHINE DESIGNERS!

GET THE FULL STORY ON HANNIFIN'S

NEW Pilot-Master Air Control Valves!

HERE'S WHY MAINTENANCE MEN PREFER THEM...

FEWER VALVES TO STOCK
Use same valve 2-way or 3-way, normally open or normally closed.

FEWER PARTS TO STOCK
Unique cartridge construction makes "insides" easily replaceable.

INDUSTRIAL SOLENOIDS
Long-lasting, easy to change coils to any standard voltage.

1/4", 3/8", 1/2", 3/4", 1", 1 1/4" Sizes; Pressures to 150 p.s.i.
Write for Bulletin 231 and get the complete story!

HANNIFIN

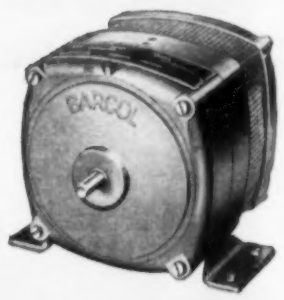
Hannifin Corporation • 1127 S. Kilbourn Ave. • Chicago 24, Ill.
Air and Hydraulic Cylinders • Presses • Air Control Valves

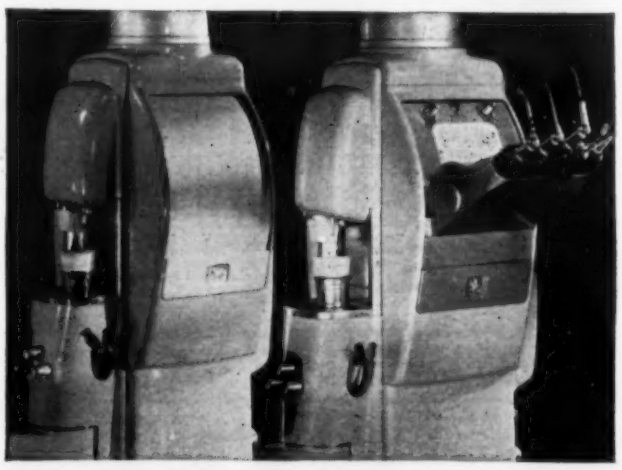
For more details circle NED-960 F3 on enclosed inquiry slip

BARBER COLMAN

Barcol® Small Motors

New Ritter Instru-Matic dental unit uses Barcol motor to position instrument assembly





There's magic in the dentist's office today. When the patient enters a treatment room equipped with a new Ritter Instru-Matic Unit, the instrument assembly is *completely enclosed*, as shown at left above.

Then, a touch of a switch *automatically activates* the disappearing panel, and the instruments quickly, quietly advance to the fingertip position shown at right.

Powering this operation is a Barcol PYAZ unidirectional, geared-head motor — specifically adapted and engineered by Barber-Colman to meet Ritter's special requirements. "Plus" features of this Barcol motor include rugged precision-built gear train . . . generous oil reservoirs . . . porous bronze bearings . . . hardened and ground stainless steel shafts . . . high starting torque.

This Ritter application is just one example of how Barber-Colman engineers helped solve a design-production problem with the *exact* motor for the job. If you have a project involving small motors, let Barber-Colman engineers work it out with you.

FREE DATA SHEETS ON WIDE LINE OF SMALL MOTORS
The Barcol line includes unidirectional, synchronous, and reversible motors—up to 1/30 h.p. With and without reduction gearing—open or closed types. (Example—PYAZ type, illustrated at top, available in gear reductions from 7.2:1 to 1,333,800:1). Expert engineering service available. Write for free data sheets.

BARBER-COLMAN COMPANY, DEPT. F, 1213 ROCK STREET, ROCKFORD, ILLINOIS
Small Motors • Automatic Controls • Aircraft Controls • OVERdoors
Air Distribution Products • Machine Tools • Metal Cutting Tools
Molded Products • Wheelco Instruments • Textile Machinery

For more details circle NED-961 F3 on enclosed inquiry slip

Chicago MOUNTED Wheels

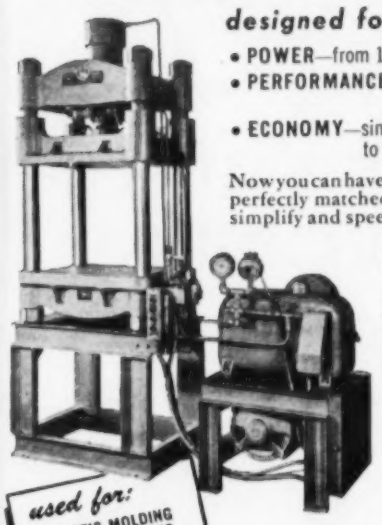
...now even better with 79E BOND

Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & *Mfg. Co.*
Dept. NED • 1101 West Monroe Street, Chicago 7
For more details circle **NED-962 F3** on enclosed inquiry slip

HERE IS *the new Rodgers blue ribbon line of platen presses for all types of production jobs!*



designed for:
- **POWER**—from 10 to 500 tons pressure!
- **PERFORMANCE**—for precision work on all types of materials!
- **ECONOMY**—simple, rugged design—easy to service!

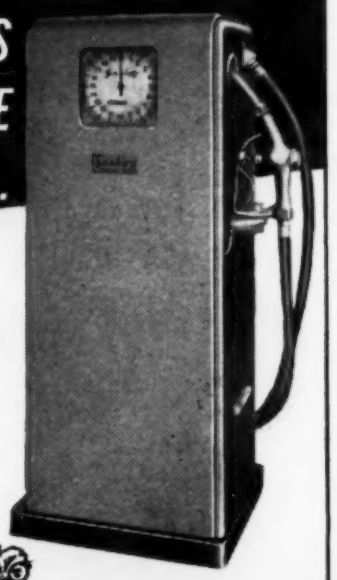
Now you can have hydraulic platen presses perfectly matched to the job, presses that simplify and speed up production and cut operating and maintenance costs. You can select a platen press to fit your exact needs from over 200 separate Rodgers Blue Ribbon Models. You can get either square or rectangular platens, up-acting or down-acting, with a selection of hand, power driven or combination pumps to suit your work.

used for:
- PLASTIC MOLDING
- RUBBER MOLDING
- METAL DRAWING
- METAL FORMING
- VENEERING
- DIE TRY-OUT
- GENERAL ASSEMBLY
- UTILITY WORK

Write for the new illustrated Rodgers Blue Ribbon Catalog No. 320 giving complete specifications on 229 different models!

Rodgers Hydraulic, Inc.
7425 Walker St., St. Louis Park, Minneapolis 16, Minn. Hydraulic Power Equipment
For more details circle **NED-963 F3** on enclosed inquiry slip

If you buy More than 125 GALLONS of GASOLINE A MONTH . . .



This New Electric Pump will Pay for itself

WRITE OR WIRE FOR DETAILS TODAY

WM. M. WILSON'S SONS, INC.
MANUFACTURERS OF GASBOYS, KERO-BOYS, OILBOYS, ROTABOYS
GENERAL OFFICES AND PLANT AT LANSDALE, PA.

For more details circle **NED-964 F3** on enclosed inquiry slip

New Processes & Materials

SOLDER FLUX PASTE
cleans, tins in same application

Each particle of Fas-Tin solder is surrounded by a powerful scavenger flux, which penetrates to base metal and drops its particles of solder to complete the tinning action as the surface oxides are suspended. Copper pipe and sweat fittings can be worked without precleaning, and oil-impregnated bearings can be tinned. Stainless steel drains and sinks and any metals combination excluding aluminum can be soldered. The compound is stable, needs no stirring and has no free mineral acid to cause corrosion. Made by **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

For more details circle **NED-965 F3** on enclosed inquiry slip

RUBBER MAT CLEANER
also cleans vinyl, asphalt, linoleum

Made in powder form, Amatco rubber mat cleaner will safely clean all types and colors of rubber floor matting, as well as linoleum, terrazo, vinyl, asphalt tile, enameled and painted surfaces and wooden floors. It is offered in 5-lb packages and will remove organic and inorganic oils and greases. Made by **American Mat Corp.**, 1733 Adams St., Toledo 2, O.

For more details circle **NED-966 F3** on enclosed inquiry slip

FLOOR RESURFACER
sets by compaction, not curing

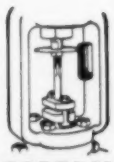
Ready for use right from container, Redi-Roll heavy duty floor resurfacing and patching material takes traffic immediately after being applied. A plastic rather than a mastic material, it sets by compaction and not by curing. It may be applied over cleaned and primed cement, brick, metal and most other surfaces by raking over floor, then rolling down to compacted thickness of ¼-in. Surface powder is sprinkled over surface to avoid tackiness, after which heaviest traffic can roll without delay. Product feather-edges to surrounding surface. It is packed in 825-lb units, including primer and surface powder. Coverage is about 275 sq ft at ¼-in. thickness. Made by **Rock-Tred Corp.**, 7442 N. St. Louis Ave., Skokie, Ill.

For more details circle **NED-967 F3** on enclosed inquiry slip

5 special features, standard on LESLIE Diaphragm Control Valves, reduce maintenance costs

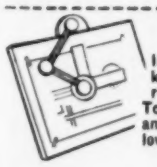
1. Renew seat rings without taking valve body from the line. No vises or lathes. Standard with Leslie for 27 years; not a theory, a proven fact.

2. Wide yoke . . . plenty of room for big hands to work. Cap screws bolt flanged superstructure positively to bonnet.



3. Cast flats make superstructure bolts easy to remove. Heads can't turn . . . job's done with a single wrench.

4. Flats on valve stem are easy to reach. Prevents scoring 2 micron valve stem finish.



5. Interchangeable parts keep inventory small, reduce down-time. Top grade materials and engineering means lowest operating cost.

Leslie makes a *standard* control for all regular and most *special* applications. Check Leslie first. Leslie engineers are listed in the "yellow pages" under "Valves" or "Regulators".

Send for free 12 page Bulletin 5305—latest data on double-seated control valves.

LESLIE

LESLIE CO., 227 Grant Ave., Lyndhurst, New Jersey
For more details circle **NED-968 F3** on enclosed inquiry slip

NOW!

SILICONE RUBBER PARTS

Your Molded or Extruded Parts can now be made of wondrous new Silicone Rubber . . . by Republic.

Send us your prints today. With more than 50 years' specialized experience in Industrial Rubber Products . . . with the most modern plant and production facilities . . . Republic Rubber is ready with the skill and personalized attention that assures you of high-quality Silicone Rubber Parts, formulated to a compound that exactly meets your requirements.

Let us show you how you benefit by using Silicone, the new, heat-resisting, non-sticking, inert rubber compound accurately fabricated to your specifications by Republic, the specialist in Industrial Rubber Products.

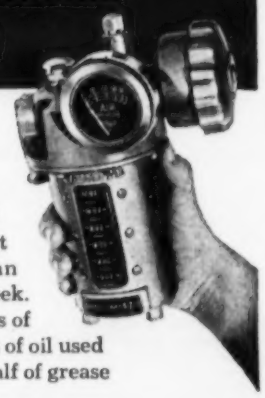
REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

For more details circle **NED-969 F3** on enclosed inquiry slip

Steel-Maker... **extends bearing life 11 times!**

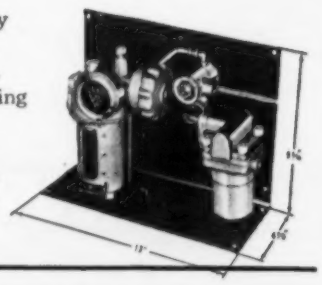
ALEMITE OIL-MIST

Saves its cost each week- **eliminates lubrication down-time**



Costly High-Speed Bearings Failed Week after Week on a key production machine. Costs piled up. The company turned to Alemite—installed an Oil-Mist unit costing little more than $100. *Result:* $220 saved first week. Today—11 weeks later—no signs of bearing wear; only three ounces of oil used per shift where a pound and a half of grease were required before!

Alemite Oil-Mist is a fully automatic system which atomizes oil into mist . . . distributes it through tubing to bearings . . . applies a constant uniform oil film to groups of bearings designed either for oil or grease lubrication.



delivers oil to bearings 3 ways

1. Oil-Mist as Such. For any type of anti-friction bearing—ball, roller or needle.

2. Oil in Spray Form. For open and enclosed gears and chains. Nozzle partially condenses mist so that it can be directed onto a concentrated area.

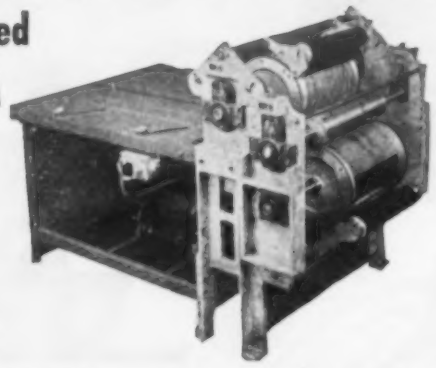
3. Oil-Mist Condensed. For plain bearings, slides, ways, vees, cams and rollers. In these applications, condensing fittings convert oil mist to liquid oil.

Get the facts NOW!

Let us send you the complete story on Oil-Mist. Specifications, models, typical applications, actual case histories. Get yours now. Write Alemite Division of Stewart-Warner, Dept. NED-63, 1850 Diversey Parkway, Chicago 14, Illinois.

For more details circle **NED-970 F3** on enclosed inquiry slip

PRINT YOUR OWN SHIPPING CONTAINERS OR MULTI-WALL BAGS as You need THEM



Industrial's Auto Printer

is suitable for imprinting information, addresses, marking, or whatever you may require on your containers or multi-wall bags. It is capable of printing as many as 2000 units per hour. Eliminates hand stenciling.

This is just one of Industrial's coding and marking machines designed specifically for your needs to assure more efficient marking and movement of materials on production lines. Marking equipment is also available for conveyor line use.

Let us help you—send us your marking problem; we will do the rest.

Machines available for munitions marking.

Write for catalog today.

INDUSTRIAL MARKING EQUIPMENT CO.

Designers and Builders of Marking Equipment for Industry

Dept. NED, 454 Baltic Street, Brooklyn 17, N. Y.

For more details circle NED-971 F3 on enclosed inquiry slip

SHENANGO Centrifugal CASTINGS ... KEY TO SAVINGS

LEARN WHY . . .

SHENANGO MEEHANITE METAL BAR STOCK means superior quality parts!

FIRST, centrifugally cast Shenango tubular bars assure more uniform pressure-dense grain, and complete freedom from blowholes, sand inclusions and other similar defects. They are better able to withstand friction, abrasion, and all kinds of stresses.

SECONDLY, both solid and tubular bars are made of superior, scientifically controlled Meehanite Metal. The metallurgical structure of Shenango Meehanite Metal is predetermined and controlled throughout the foundry operations, to produce the best quality bar stock available. What's more, machining speeds can be increased, and a smoother, finer finish is assured.

Get all the facts

SEND FOR BULLETIN NO. 152

SHENANGO-PENN MOLD COMPANY
Centrifugal Castings Division
Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO

ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE® METAL

For more details circle NED-972 F3 on enclosed inquiry slip

GET GREATER FUEL OIL EFFICIENCY! Send Coupon to:

E. F. HOUGHTON & CO.
PHILADELPHIA • CHICAGO • DETROIT • SAN FRANCISCO

Investigate "Houghto-Solv," which is now reducing fuel oil costs substantially in many industrial plants. The Houghton Man would like to show you how . . .

E. F. HOUGHTON & CO.
303 W. Lehigh Ave., Philadelphia 33, Pa.

Please show me how to solve our fuel oil efficiency problems.

NAME _____

FIRM _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

For more details circle NED-973 F3 on enclosed inquiry slip

New Literature & Catalogs

Engravers & Accessories

Mico Instrument Co.—Engraving machines and accessories such as type, cutter grinders and copy carriers are subject of 12-page bulletin No. 53. The portable engraver described may be used for two and three-dimensional engraving and precision duplicating. Fully illustrated bulletin has complete specifications.

For more details circle NED-974 F3 on enclosed inquiry slip

Midget Indicator Lights

Dialight Corp.—Brochure L-153, contains 4 pages, is called "Sub-Miniature Indicator Lights" and describes five different types of these units. All are designed to mount in a 15/32-in. clearance hole, and are equipped with any desired midget flanged base T-1¾ bulb. Diagrams and technical data make selection easy.

For more details circle NED-975 F3 on enclosed inquiry slip

Wires & Cables

United States Wire & Cable Corp.—Listing and illustrating wires and cables for a wide variety of industrial uses, 24-page catalog PM-3 contains valuable reference tables, diagrams and charts. Each class of wire and cable is described in detail as to construction, chemical and physical properties, and typical uses.

For more details circle NED-976 F3 on enclosed inquiry slip

Relays

Potter & Brumfield—24-page catalog No. 122 describes a line of relays, contactors and shaded-pole motors. Both pictures and schematic drawings show accurate overall mounting dimensions of open and hermetically sealed units. The catalog facilities ordering procedure, offers valuable assistance in development problems and in selecting the proper type relay to meet requirements.

For more details circle NED-977 F3 on enclosed inquiry slip

Woven Wire Conveyor Belts

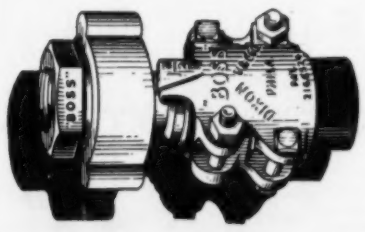
Cambridge Wire Cloth Co.—Four pages of information on woven wire conveyor belts are contained in bulletin 105. Applications of these units include metalworking, food processing, ceramics and chemical processing. Installations are shown and described in each category.

For more details circle NED-978 F3 on enclosed inquiry slip

Cold-Finished Carbon Steel Bars

Joseph T. Ryerson & Son, Inc.—8-page bulletin "Cold Finished Bars" forms a guide to the selection use and relative cost of a number of different steel analyses. It describes the finishing processes used and their effect on mechanical properties and machinability. Tabular data gives quick comparison of low and medium carbon cold-finished steel bars of varying analyses.

For more details circle NED-979 F3 on enclosed inquiry slip



"GJ-BOSS"

GROUND JOINT FEMALE COUPLING, STYLE X-34

For Steam, Air, Water, Hydraulic Hose — High or Low Pressure

Soft-to-hard metal seal provides leakproof, trouble-free connection. Parts — Malleable iron or steel, rustproofed. Furnished with "BOSS" Offset and Interlocking Clamps. Deep, smooth corrugations give an excellent gripping surface for hose when clamp pressure is applied. Sizes ¼" to 6".

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.

PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

For more details circle NED-980 F3 on enclosed inquiry slip

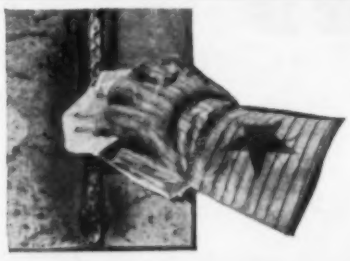
This 2 IN 1 CONVEYOR can cut equipment costs in half

TOTE-ALL handles BOTH bulk and packaged materials

FOR many firms a Lake Shore Tote-All eliminates the need for a second conveyor—for others a Tote-All is real handy to have around, because in ten minutes, or less, this sturdy, portable unit converts into either a bulk or package conveyor—simply by adding or removing sideboards and hopper. Here's unbeatable flexibility for yard or warehouse. Coal by the ton—cola by the case, move it all with a Tote-All. Write Lake Shore for details.

LAKE SHORE *Engineering Company*
IRON MOUNTAIN, MICHIGAN
Dealers in all principal cities

For more details circle NED-981 F3 on enclosed inquiry slip



USE PROTECT-O-METAL AND WIPE OFF SPATTER

When you use Protect-O-Metal . . . weld spatter wipes off in an instant, with a dry cloth. Protect-O-Metal No. 2 saves 85% of weld cleaning time and labor, pays for itself three times over.

Protect-O-Metal No. 2 is a non-toxic, fume-free, odorless compound that weld spatter cannot penetrate. It quiets the welding arc, improves weld fluxing, causes no porosity, makes for more perfect welds all around.

Order a trial gallon today. Your money back if compound does not prove entirely satisfactory.

PROTECT-O-METAL POM G.W.SMITH

G. W. SMITH & SONS, INC., 5406 Kemp Road, Dayton, O.

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Indus Wheels Solve Wheel Problems

Send for SPECIFICATIONS AND PRICE SHEETS FOR INDUSTRIAL AND JUVENILE

WHEELS

- Semi-Pneumatic, Pneumatic, or Solid Tires
- Tire Load ratings to 925 pounds
- Wheel Sizes 2½" to 16"
- Available with ball, roller or grafoil bearings.
- Baked enamel finish to customers' specifications.

INDUS CORPORATION
1815 MADISON AVE.
INDIANAPOLIS 25, INDIANA

For more details circle NED-983 F3 on enclosed inquiry slip

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Have You Filled In Your Name and Address?

FOLD TO THIS LINE

To obtain additional information on any items in this issue of NEW EQUIPMENT DIGEST, circle numbers below which correspond with those of the desired items. Your request will be forwarded promptly to the manufacturer. Please give your name, title, company and address. This postage-free mailer should be folded as indicated for mailing.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151
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F-3

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

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Principal Products Manufactured .....

..... Approximate Number of Employees in Plant .....

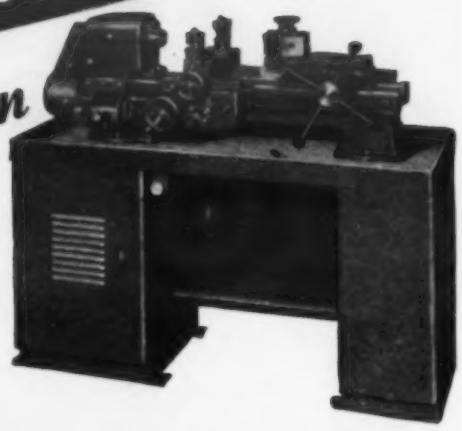
Also send NEW EQUIPMENT DIGEST free to the following men in our company:

NAME ..... TITLE .....

NAME ..... TITLE .....

speaking of ECONOMY..

Logan Brings It!



No. 935-2 QUICK CHANGE GEAR TURRET LATHE
11" Swing, 1" Collet Capacity, 1 3/16" Spindle Hole, 43 1/8" Bed

NO OTHER LATHE of comparable specifications can match the Logan in economy. The Logan is quickly set up for every type of lathe operation. The lasting accuracy that results from advanced design and rugged, overall construction keeps production at peak efficiency and holds costs down. For example, the Logan ball bearing spindle needs no adjustment for any speed from 45 to 1500 rpm, a feature that assures sustained spindle accuracy and saves maintenance. Self-lubricating bronze bearings protect vital points against wear and prolong service life. With its 11" swing and 1" collet capacity, the Logan can bring precision with economy to most of your lathe operations. *Write for the Logan Catalog.*

LOOK TO LOGAN FOR BETTER LATHES AND SHAPERS
LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago 30, Illinois

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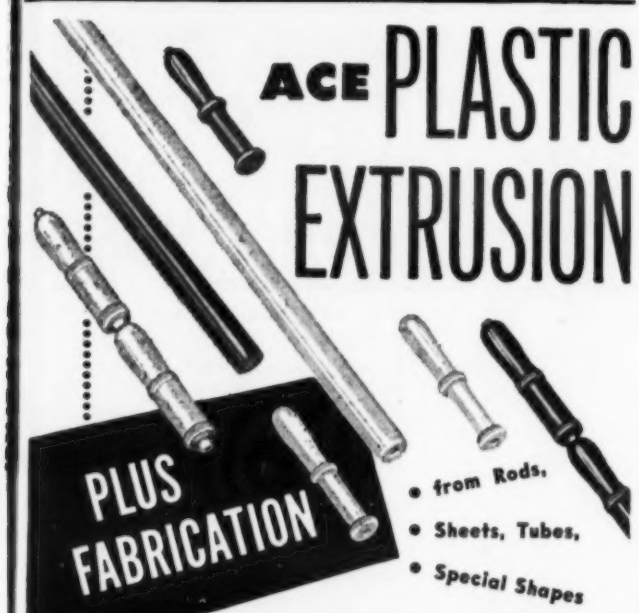

ACE PLASTIC EXTRUSION

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- from Rods,
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Extruded parts from the raw material to the finished product . . . an Ace specialty. Ace Plastic rods, tubes and shapes are custom extruded and machined automatically to your most exacting specifications. Let our engineers assist you with your plans.

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By the manufacturers of famous Ace Nylon Balls

ACE HIGH QUALITY

ACE PLASTIC COMPANY
Precision Plastic Fabricators and Extruders

91-28 Van Wyck Expressway • Jamaica 2, N. Y.

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Simplicity

Means . . .
PRODUCTION ECONOMY

Assembly of parts like this with DRIV-LOK Pins is simple—fast—more economical. Just drill through collar and shaft and drive in the pin. No reaming or staking necessary. Vibration proof. DRIV-LOK Pins are used in many industries for countless applications. Made in many types and sizes to fit your needs. Write for CATALOG showing sizes and applications.

DRIV-LOK PIN COMPANY
715 Chauncey Street, Sycamore, Illinois

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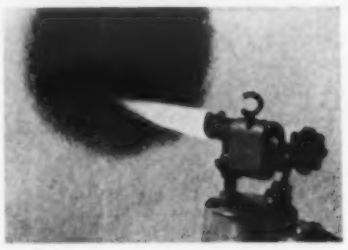
New Processes & Materials

FIRE RETARDANT COATINGS applicable to wood and metal

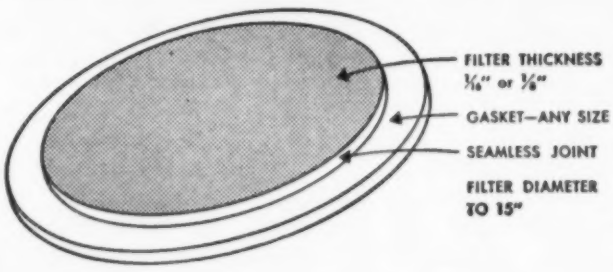


Rated by Underwriters' Laboratories, Albi 99 and Albi PC fire retardant coatings for wood and metal afford protection against the penetration and spread of flame. Coatings are reported to have washing and moisture resistance of oil paints. They are applicable with brush or spray and produce a durable finish in any of several colors. When exposed to flame, they form a cellular insulating "mat" that resists both heat and flame. Mat can be scraped off easily, leaving an undamaged surface ready for refinishing. Developed by **Albi Mfg. Co.**, Dept. NED, 29 Bartholomew Ave., Hartford 6, Conn.

▲ For more details circle NED-987 F3 on enclosed inquiry slip ▲

FILTRATION MATERIAL resists acids up to 300°F

Completely resistant to all strong acids, caustics, oxidizing agents and common organic solvents, Kel-F Plastic filtration medium can be used at up to 300° F,



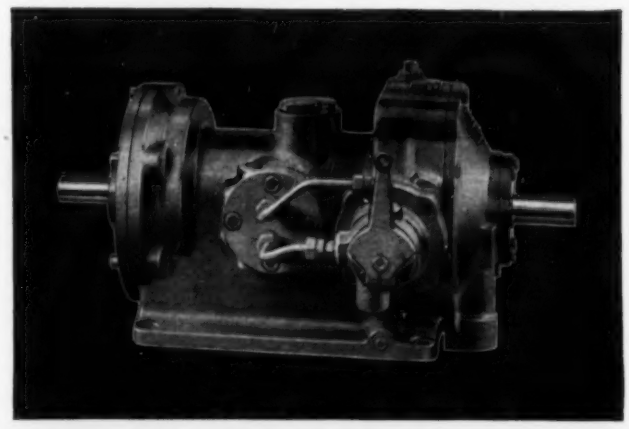
has 900 psi tensile strength and elasticity modulus of 1800 psi. Mean pore opening is 15 microns. Flow capacities range downward from 500 cfm of air per square foot of filter surface, at 8 psi differential pressure, and from 110 gpm of water per square foot at 10 psi differential pressure. Material is available in disks up to 12 in. diameter, in thicknesses of 1/16 and 1/8 in. and with chipproof contiguous solid Kel-F edges. Made by **Porous Plastic Filter Co.**, 30 Sea Cliff Ave., Glen Cove, N. Y.

▲ For more details circle NED-988 F3 on enclosed inquiry slip ▲

Turning Rolls As Welding Positioners

Worthington Corp.—4-page bulletin R-228A describes turning rolls used as welding positioners for all types of cylindrical forms. Charts include data on capacities applicable with various roller combinations, surface speeds, motor sizes, unit dimensions, and speed ranges. Four units are covered, with capacities up to 75 tons.

▲ For more details circle NED-989 F3 on enclosed inquiry slip ▲



ANY-SPEED OILGEAR FLUID POWER TRANSMISSION Solves drive problems —Improves machine performance

Even machines that lead their fields have benefited greatly by a change to the *ANY-SPEED* Oilgear Fluid Power Transmission . . . simply because top machine performance often depends on a speed flexibility other drives just don't have. The *Any-Speed* Oilgear is *just that*—from zero to 1600 r.p.m. And once you pick your best speed it stays there . . . or until you want to change. Smooth shading of speed all the way up or down. Full control manually, hydro-electrically, pushbutton or automatic remote. Small, durable, dependable, this "power package" installs easily, ends drive trouble, saves power, cuts maintenance to a sliver. Simple, accessible design. Drives off any constant speed source. Write for descriptive Bulletin 67110A. THE OILGEAR COMPANY, 1582 West Pierce St., Milwaukee 4, Wis.

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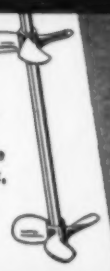
Your ALL-PURPOSE BATCH TYPE Mixer
FOR CONTINUOUS SERVICE

TYPHOON



Constant-duty motor—widely spaced ball bearings—adjusts to fit almost any size and shape of tank, at any angle. Direct drive and geared models.

LIGHTWEIGHT
STURDY
HIGH QUALITY
at moderate cost

WRITE FOR BULLETIN!

The Patterson Foundry and Machine Company
East Liverpool, Ohio, U. S. A.
NEW YORK, BOSTON, BALTIMORE, PHILADELPHIA, PITTSBURGH, DETROIT, CINCINNATI, CHICAGO, ST. LOUIS, HOUSTON, DENVER, LOS ANGELES, SAN FRANCISCO, SEATTLE
The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada
MONTREAL

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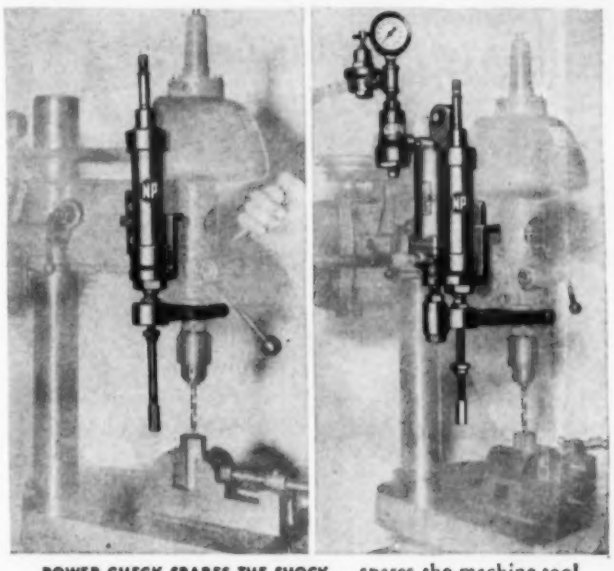

POWER-CHECK SPARES THE SHOCK . . . spares the machine tool, the die, the work! Easy to adjust to exact limits. Especially suitable for drill presses, milling machines, etc.

Where power needs control

NP Power-Check Gives Precision Control

Here's your answer to fewer rejects, cleaner work, long tool life and less down time on all your machine tools.

NP Power-Check automatically governs the power at any point of the stroke for which you set it, on either manual or pneumatic feed. It eliminates the need for special skills, is completely self-contained and easily applied. 2, 4, 6, 8-inch strokes.

What's your application? Send for free Bulletin No. DC-208-B.

NP POWER-CHECK
National Pneumatic Co., Inc.
Boston 19, Mass.

NATIONAL PNEUMATIC CO., INC.
125 Amory Street, Boston 19, Mass.

Please send me without charge a copy of your Bulletin No. DC-208-B describing the *Power-Check*. We are interested in its possible application to

(Type of machine).....

Your Name.....

Company Name.....

Street and No......

City.....*Zone*.....*State*.....

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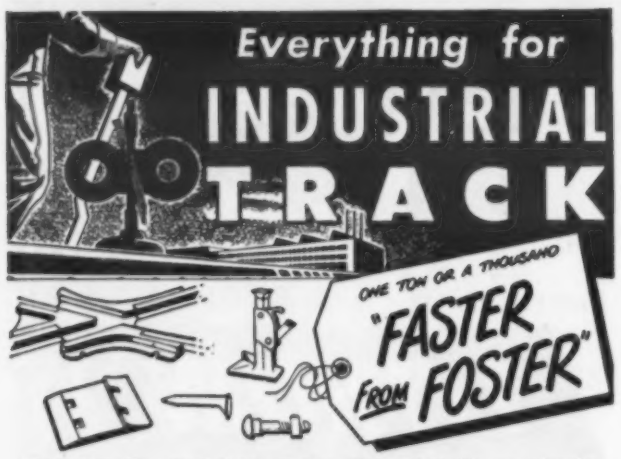

Need Rails—Switches—Frogs—Guard Rails or Track Tools? For best selections and prompt deliveries—try FOSTER—shipments of most items can be made from stocks in our five nationwide warehouses.

RAILS—New and Relaying Foster stocks are being replenished daily. Any items we did not have last week, we'll probably have next week. We match specifications and sizes to meet all your requirements on any job, new installations or replacements. *Call on Foster for all your needs for Industrial Track Equipment and Supplies.*

Write for Track Equipment Bulletin NE-6

L.B. FOSTER CO.

CHICAGO 4, ILL. HOUSTON 2, TEX.
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For more details circle NED-993 F3 on enclosed inquiry slip

How to Plan, Lay Out and Specify Your PUSH-PULL CONTROL System

A NEW MANUAL FOR DESIGN ENGINEERS

Here is a useful and instructive manual by a recognized leader in push-pull control systems for aircraft and industrial applications. Clearly illustrated... an informative treatise on transmission of motion with push-pull systems. For your free manual, write:

Simmonds
AEROCESSORIES, INC.
Tarrytown, N.Y.

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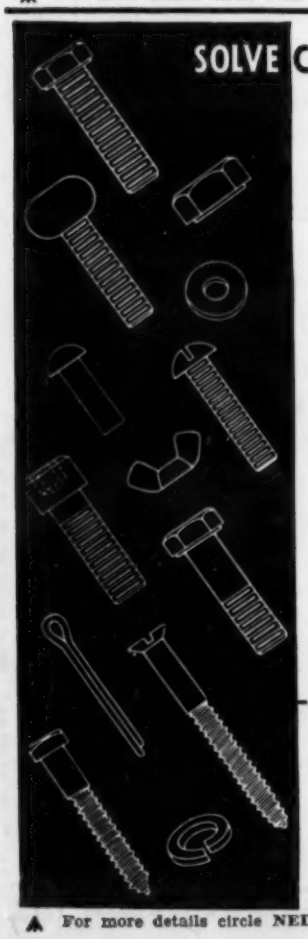
SOLVE CORROSION PROBLEMS!



Select HARPER
Everlasting Fastenings

Harper can supply corrosion-resistant fastenings to meet every need. Call Harper for bolts, nuts, screws, washers, rivets and special fastenings of brass, silicon bronze, naval bronze, Monel, aluminum, all stainless steels. Over 7,000 different items ready for prompt delivery. See your Harper Branch or Distributor or write for catalog.

HARPER
EVERLASTING FASTENINGS

The H. M. Harper Company
8212 Lehigh Avenue
Morton Grove, Illinois
Please send me Harper Catalog 25.

Name.....
Company.....
Address.....
City.....State.....

For more details circle NED-995 F3 on enclosed inquiry slip

New Literature & Catalogs

Glass Products Directory

Owens-Illinois Glass Co.—16-page full-color bulletin provides a complete illustrated guide to the company products line. This includes containers for the chemical, food and shipping industries; domestic glassware; building and insulating products; insulators and laboratory and hospital supplies. Plastic specialties are included.

For more details circle NED-996 F3 on enclosed inquiry slip

Clips & Clamps

Exacto Industries, Inc.—Facilities of this company for making aluminum, steel, cushioned and plain clamps and clips are depicted in 4-page illustrated folder. Conductive rubber, silicone and aromatic fuel resistant materials are used in construction. Supplementary data sheet presents information on Autoset self-setting clamps for presses and machine tools.

For more details circle NED-997 F3 on enclosed inquiry slip

Speed Reducers

D. O. James Gear Mfg. Co.—56-page illustrated catalog No. 40-C presents specifications, design data and much general information on continuous-tooth herringbone gear speed reducers. Parallel shaft-offset drive models in single, double and triple reduction types are available in ratios from 2:1 to 370:1 and from 0.5 to 5000 hp. Straight line drive-double reduction types are offered in ratios from 11:1 to 76.5:1 and from 0.8 to 800 hp. A price list is included.

For more details circle NED-998 F3 on enclosed inquiry slip

Bulk Handling in Containers

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L. Sonneborn Sons, Inc., Building Products Div.—Results obtained after testing various silicone water repellents are presented in 6-page folder BP-3062. Important differences between one silicone, especially Hydrocide SX, and other makes are cited. Tests were made by York Laboratories of Stamford, Conn.

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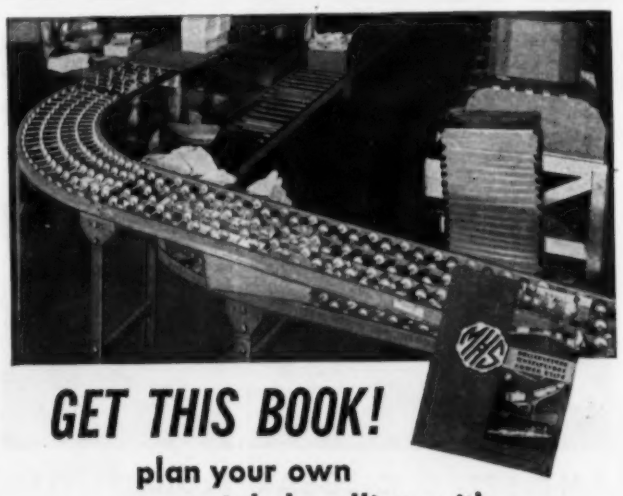

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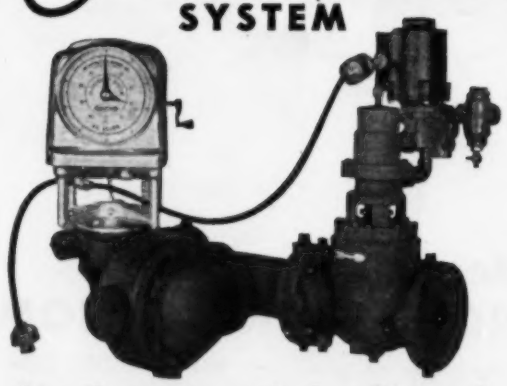

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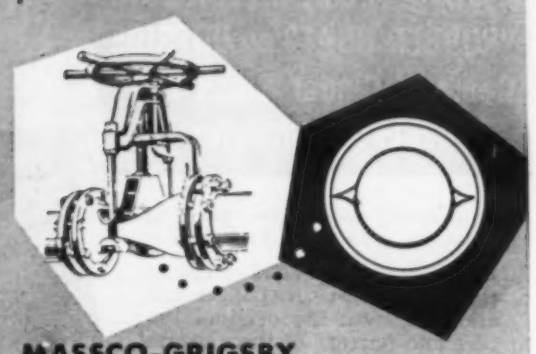

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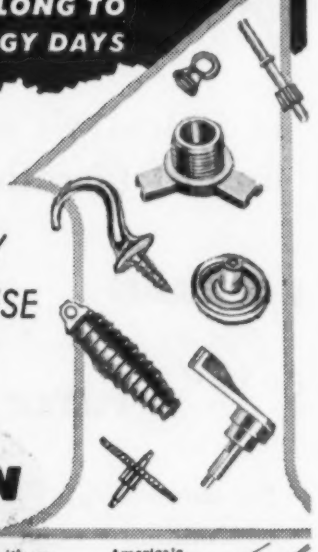

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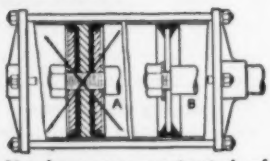

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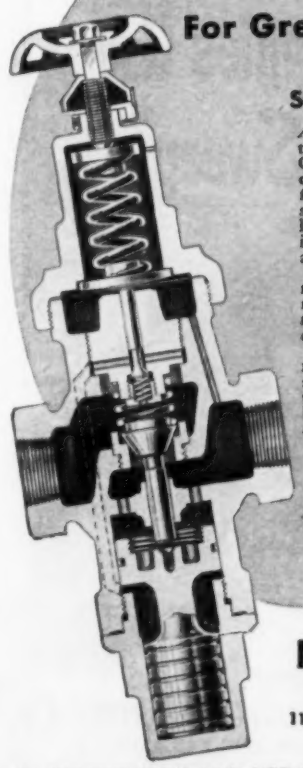

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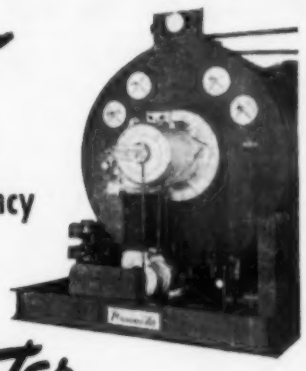

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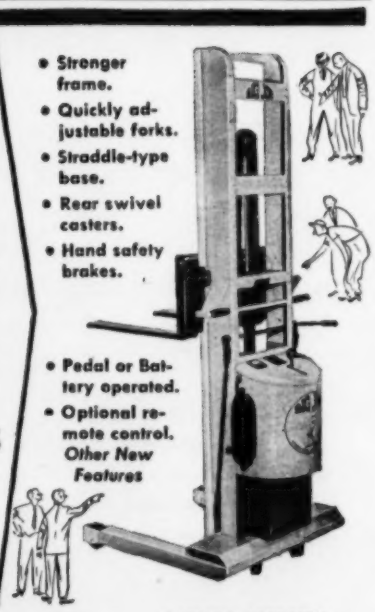

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Dry Sludge • Keeps Coolant Cool

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Fully Automatic
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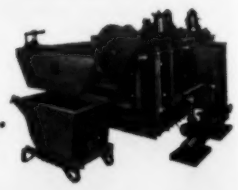

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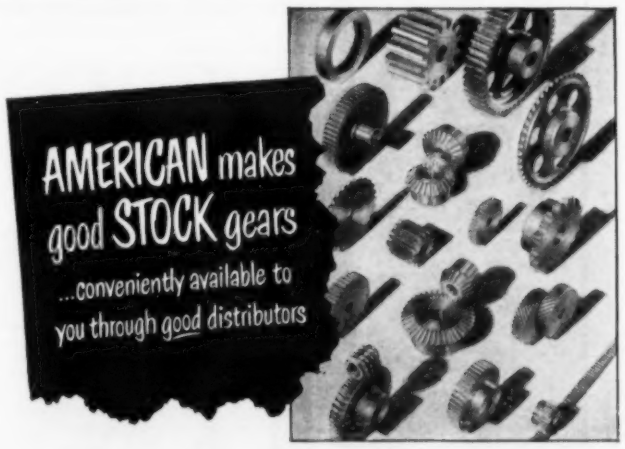

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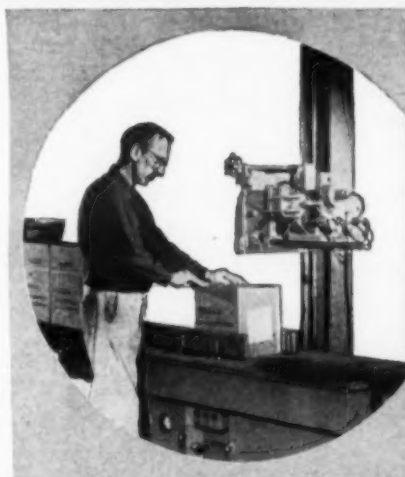

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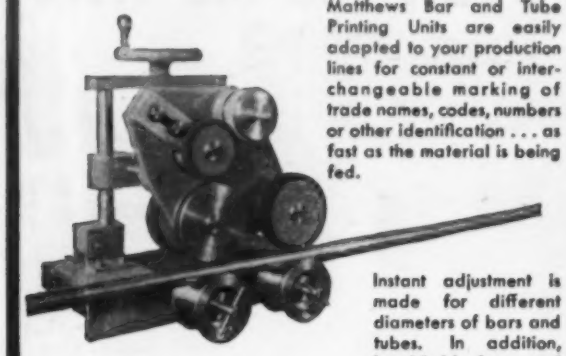

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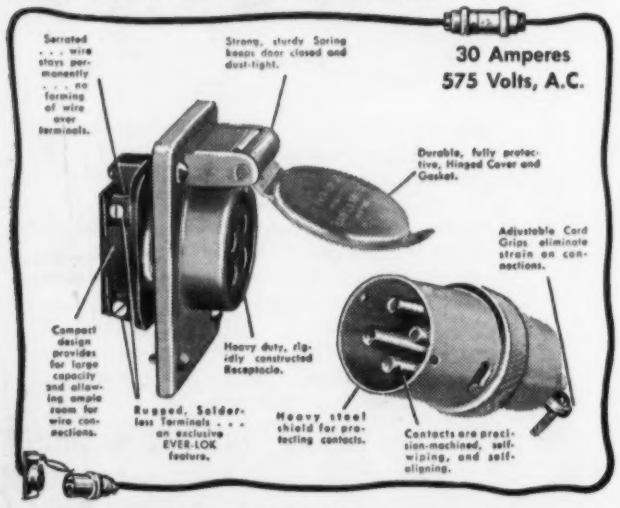
...FOR HEAVY-DUTY UTILITY AND INDUSTRIAL APPLICATIONS



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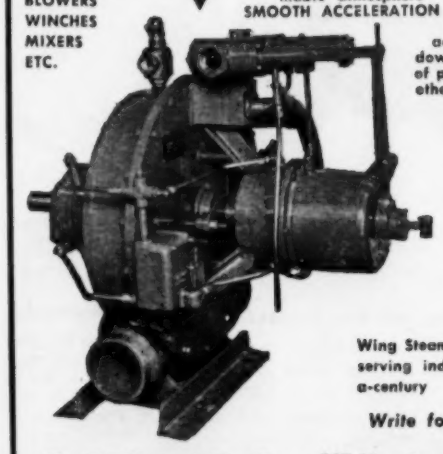

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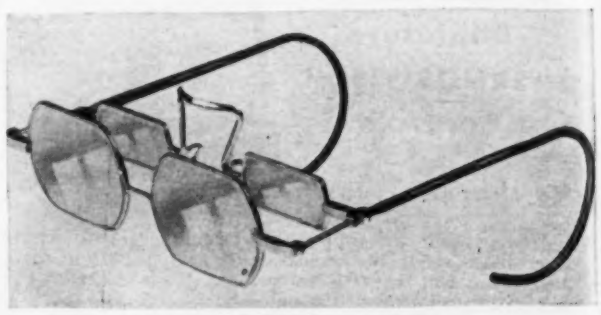

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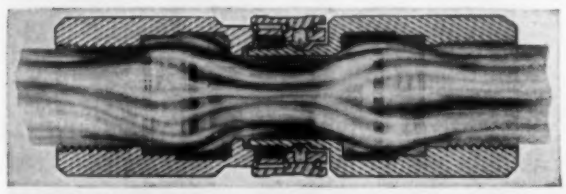

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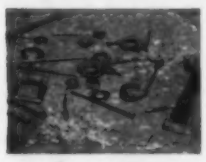

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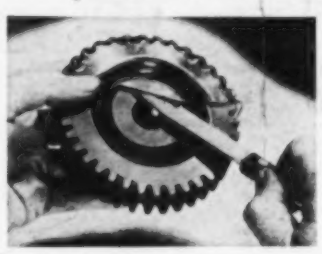

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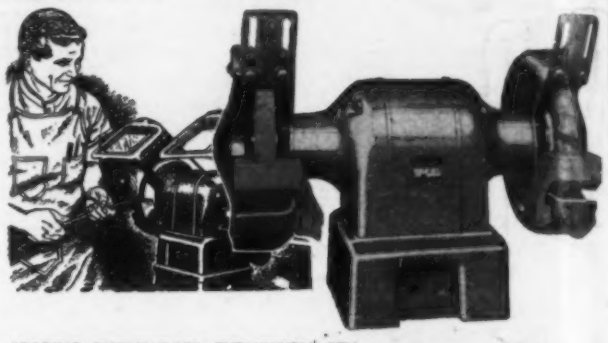

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